

Grizzly **Industrial, Inc.**®

MODEL G0698 18" X 47" WOOD LATHE OWNER'S MANUAL



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(FOR MODELS MANUFACTURED SINCE 11/09) #JB12237 PRINTED IN CHINA

 **WARNING!**

This manual provides critical safety instructions on the proper setup, operation, maintenance and service of this machine/equipment.

Failure to read, understand and follow the instructions given in this manual may result in serious personal injury, including amputation, electrocution or death.

The owner of this machine/equipment is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, blade/cutter integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

 **WARNING!**

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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INTRODUCTION

Manual Accuracy

We are proud to offer this manual with your new machine! We've made every effort to be exact with the instructions, specifications, drawings, and photographs of the machine we used when writing this manual. However, sometimes we still make an occasional mistake.

Also, owing to our policy of continuous improvement, **your machine may not exactly match the manual**. If you find this to be the case, and the difference between the manual and machine leaves you in doubt, check our website for the latest manual update or call technical support for help.

Before calling, find the manufacture date of your machine by looking at the date stamped into the machine ID label (see below). This will help us determine if the manual version you received matches the manufacture date of your machine.

		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		▲ WARNING!	
Motor:		Manufacture Date of Your Machine ing this machine: operation. s and respirator. sted/setup and suit before starting. 4. make sure the motor has stopped and disconnect power before adjustments, maintenance, or service. 5. DO NOT expose to rain or dampness. 6. DO NOT modify this machine in any way. 7. DO NOT remove safety guards. 8. Never leave machine running unattended. 9. DO NOT operate under the influence of drugs or alcohol. 10. Maintain machine carefully to prevent accidents.	
Specification:			
Specification:			
Specification:			
Weight:			
<input type="text"/>	Date		
<input type="text"/>	Serial Number		
Manufactured for Grizzly in Taiwan			

For your convenience, we post all available manuals and manual updates for free on our website at www.grizzly.com. Any updates to your model of machine will be reflected in these documents as soon as they are complete.

Contact Info

We stand behind our machines. If you have any service questions, parts requests or general questions about the machine, please call or write us at the location listed below.

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
E-Mail: techsupport@grizzly.com

We want your feedback on this manual. If you can take the time, please email or write to us at the address below and tell us how we did:

Grizzly Industrial, Inc.
c/o Technical Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

Machine Description

The G0698 18" X 47" Wood Lathe is designed to turn wood stock so the operator can remove material with a chisel.

The variable speed control allows for infinite spindle speed adjustment from 0–3200 RPM and the digital readout provides a precise reading of the current spindle speed.

The headstock can be positioned anywhere along the bed for increased flexibility in workpiece setup.



Identification

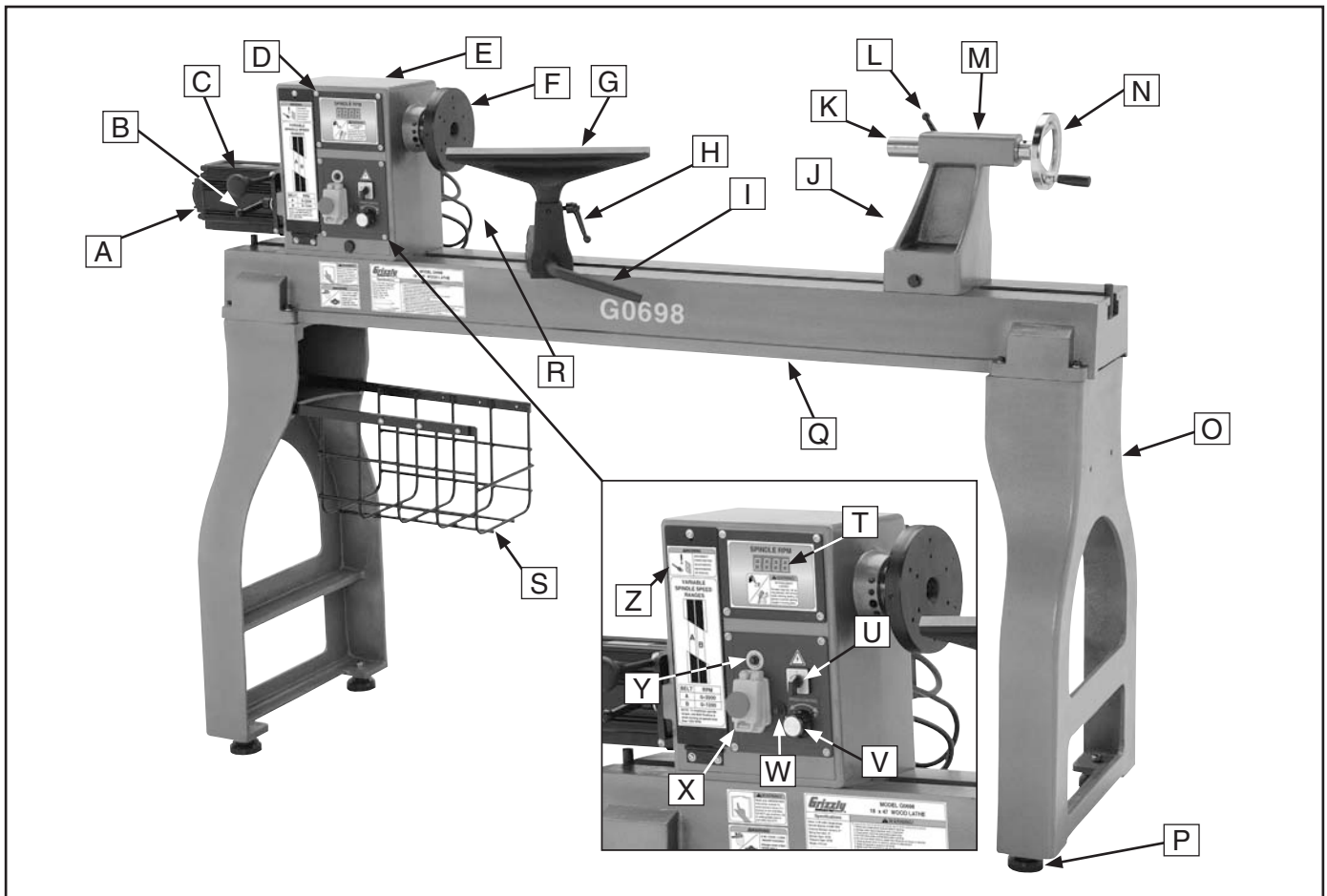
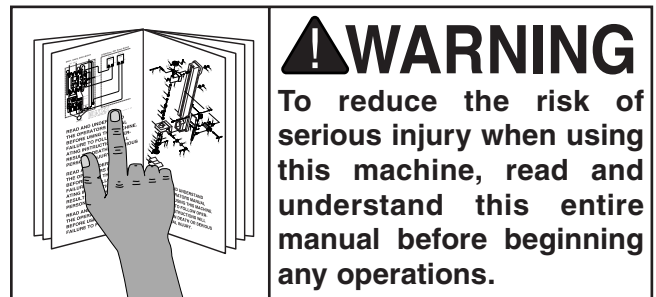


Figure 1. Identification.

- | | |
|---|---|
| <ul style="list-style-type: none"> A. Motor B. Belt Tension Lock Lever C. Belt Tension Lever D. Control Panel E. Headstock F. Faceplate G. Tool Rest H. Tool Rest Height Adjustment Lock I. Tool Rest Holder Lock J. Tailstock Base Lock Lever (on back of tailstock) K. Quill L. Quill Lock M. Tailstock N. Quill Adjustment Handwheel O. Leg (1 of 2) P. Adjustable Foot (1 of 4) Q. Bed | <ul style="list-style-type: none"> R. Headstock Lock Lever (on back of headstock) S. Basket T. Spindle RPM Readout U. Spindle Direction (On) Switch V. Speed Control Knob W. Overheat Reset Button X. Emergency Stop (Off) Button Y. Circuit Breaker Reset Button Z. Belt Access Cover |
|---|---|





MACHINE DATA SHEET

Customer Service #: (570) 546-9663 · To Order Call: (800) 523-4777 · Fax #: (800) 438-5901

MODEL G0698 18" X 47" WOOD LATHE

Product Dimensions:

Weight..... 419 lbs.
 Length/Width/Height..... 80-3/4 x 19-1/16 x 48-1/16 in.
 Foot Print (Length/Width)..... 65-1/2 x 20 in.

Shipping Dimensions:

Type..... Wood Crate
 Content..... Machine
 Weight..... 547 lbs.
 Length/Width/Height..... 68 x 22 x 23 in.

Electrical:

Power Requirement..... 220V, Single-phase, 60 Hz
 Switch..... Push Button ON/OFF, Variable Speed Dial
 Switch Voltage..... 220V
 Cord Length..... 9.8 ft.
 Cord Gauge..... 14 AWG
 Minimum Circuit Size..... 15 Amp
 Plug Included..... Yes
 Included Plug/Outlet Type..... 6-15

Motors:

Spindle

Type..... TEFC Start Induction
 Horsepower..... 2
 Voltage..... 220V
 Phase..... 3-Phase
 Amps..... 12 Amps
 Speed..... 0-3600 RPM
 Cycle..... 60 Hz
 Number Of Speeds..... Variable
 Power Transfer Belt Drive
 Bearings..... Shielded and Permanently Sealed

Main Specifications:

Operation Information

Swing Over Bed..... 18 in.
 Dist Between Centers..... 47 in.
 Swing Over Tool Rest..... 13-3/4 in.
 No Of Spindle Speeds..... Variable
 Spindle Speeds..... Low 100-1200; High 330-3200 RPM
 Floor To Center Height..... 44-7/8 in.
 Headstock Rotation..... 0-180 deg.



Spindle Information

Spindle Taper.....MT#2
Spindle Size..... 1-1/4 x 8 (RH) TPI in.
Spindle Bore..... 0.393 in.
Spindle Center..... Spur Center
Indexed Spindle..... 10, 30 deg.
No Of Indexes..... 4

Tailstock Information

Tailstock Taper..... MT#2
Tailstock Center..... Live

Construction

Bed Construction..... Precision-ground cast iron
Frame Construction..... Cast iron
Stand Construction..... Cast iron
Base Construction..... Cast iron
Headstock Construction..... Cast iron
Tailstock Construction..... Cast iron
Paint..... Powder Coated

Other Related Information

Faceplate Size.....6 in.

Other Specifications:

Country Of Origin China
Warranty 1 Year
Serial Number Location Machine ID Label on Front of Bed
Assembly Time 1 Hour

Features:

Electronic variable speed control with digital spindle speed indicator
Belt drive offers low speed range of 100–1200 RPM and a high speed range of 330–3200 RPM
Headstock can be rotated 180° and positioned anywhere along the bed
Single-phase frequency drive provides three-phase variable speed control without three-phase power
10° indexing using all three indexing holes
30° direct indexing using 1 indexing hole
Tailstock, headstock, and tool rest support have lever action cam locks for quick positioning
Emergency stop switch
Forward/reverse switch

Accessories Included:

Spur center
Cupped live center
Knock-out tool
Tool rest
6" Faceplate
Indexing pin
Hex wrenches



SECTION 1: SAFETY

WARNING

For Your Own Safety, Read Instruction Manual Before Operating this Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the machine.

WARNING

Safety Instructions for Machinery

- 1. READ ENTIRE MANUAL BEFORE STARTING.** Operating machine before reading the manual greatly increases the risk of injury.
- 2. ALWAYS USE ANSI APPROVED SAFETY GLASSES WHEN OPERATING MACHINERY.** Everyday eyeglasses only have impact resistant lenses—they are NOT safety glasses.
- 3. ALWAYS WEAR A NIOSH APPROVED RESPIRATOR WHEN OPERATING MACHINERY THAT PRODUCES DUST.** Most types of dust (wood, metal, etc.) can cause severe respiratory illnesses.
- 4. ALWAYS USE HEARING PROTECTION WHEN OPERATING MACHINERY.** Machinery noise can cause permanent hearing loss.
- 5. WEAR PROPER APPAREL. DO NOT** wear loose clothing, gloves, neckties, rings, or jewelry that can catch in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.
- 6. NEVER OPERATE MACHINERY WHEN TIRED OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Be mentally alert at all times when running machinery.



WARNING

Safety Instructions for Machinery

7. **ONLY ALLOW TRAINED AND PROPERLY SUPERVISED PERSONNEL TO OPERATE MACHINERY.** Make sure operation instructions are safe and clearly understood.
8. **KEEP CHILDREN/VISITORS AWAY.** Keep all children and visitors away from machinery. When machine is not in use, disconnect it from power, lock it out, or disable the switch to make it difficult for unauthorized people to start the machine.
9. **UNATTENDED OPERATION.** Leaving machine unattended while its running greatly increases the risk of an accident or property damage. Turn machine **OFF** and allow all moving parts to come to a complete stop before walking away.
10. **DO NOT USE IN DANGEROUS ENVIRONMENTS.** DO NOT use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.
11. **KEEP WORK AREA CLEAN AND WELL LIGHTED.** Clutter and dark shadows may cause accidents.
12. **USE A GROUNDED POWER SUPPLY RATED FOR THE MACHINE AMPERAGE.** Grounded cords minimize shock hazards. Operating machine on an incorrect size of circuit increases risk of fire.
13. **ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING MACHINERY.** Make sure switch is in OFF position before reconnecting.
14. **MAINTAIN MACHINERY WITH CARE.** Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. **MAKE SURE GUARDS ARE IN PLACE AND WORK CORRECTLY BEFORE USING MACHINERY.**
16. **REMOVE CHUCK KEYS OR ADJUSTING TOOLS.** Make a habit of never leaving chuck keys or other adjustment tools in/on the machine—especially near spindles!
17. **DAMAGED MACHINERY.** Check for binding or misaligned parts, broken parts, loose bolts, other conditions that may impair machine operation. Always repair or replace damaged parts before operation.
18. **DO NOT FORCE MACHINERY.** Work at the speed for which the machine or accessory was designed.
19. **SECURE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.
20. **DO NOT OVERREACH.** Maintain stability and balance at all times when operating machine.
21. **MANY MACHINES CAN EJECT WORKPIECES TOWARD OPERATOR.** Know and avoid conditions that cause the workpiece to "kickback."
22. **STABLE MACHINE.** Machines that move during operations greatly increase the risk of injury and loss of control. Verify machines are stable/secure and mobile bases (if used) are locked before starting.
23. **CERTAIN DUST MAY BE HAZARDOUS** to the respiratory systems of people and animals, especially fine dust. Be aware of the type of dust you are exposed to and always wear a respirator designed to filter that type of dust.
24. **EXPERIENCING DIFFICULTIES.** If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Contact our Technical Support Department at (570) 546-9663.



WARNING

Additional Safety for Wood Lathes

- 1. KEEPING GUARDS IN PLACE.** Make sure all guards are in place and the lathe sits on a flat, stable surface.
- 2. EYE/FACE PROTECTION.** Always wear eye protection or a face shield when operating the lathe.
- 3. RESPIRATORY PROTECTION.** Always wear a respirator when using this machine. Wood dust may cause allergies or long-term respiratory health problems.
- 4. MOUNTING WORKPIECE.** Before starting, be certain the workpiece has been properly embedded on the headstock and tailstock centers and that there is adequate clearance for the full rotation of the workpiece.
- 5. ADJUSTING TOOL REST.** Adjust tool rest to provide proper support for the turning tool you will be using. Test tool rest clearance by rotating workpiece by hand before turning lathe **ON**.
- 6. TURNING SPEED.** Select the correct turning speed for your work, and allow the lathe to gain full speed before starting the operation.
- 7. USING SHARP CHISELS.** Keep lathe chisels properly sharpened and held firmly in position when turning.
- 8. OPERATING DAMAGED LATHE.** Never operate the lathe with damaged or worn parts.
- 9. WORKPIECE CONDITION.** Always inspect the condition of your workpiece. **DO NOT** turn pieces with knots, splits, and other potentially dangerous conditions. Make sure joints of glued-up pieces have high quality bonds and will not fly apart during operation.
- 10. ADJUSTMENTS/MAINTENANCE.** Make sure your wood lathe is turned **OFF**, disconnected from the power source, and all moving parts have come to a complete stop before starting any inspection, adjustment, or maintenance procedure.
- 11. STOPPING LATHE.** **DO NOT** attempt to stop the lathe by using your hand against the workpiece or faceplate. Allow the lathe to stop on its own.
- 12. AVOIDING ENTANGLEMENT.** Keep long hair and loose clothing articles such as sleeves, belts, and jewelry items away from the lathe during operation.
- 13. FACEPLATE TURNING.** When faceplate turning, use lathe chisels on the downward spinning side of the workpiece only.

WARNING

Like all machinery there is potential danger when operating this lathe. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this lathe with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.



SECTION 2: CIRCUIT REQUIREMENTS

220V Single-Phase Operation

!WARNING

Serious personal injury could occur if you connect the machine to power before completing the setup process. **DO NOT** connect the machine to the power until instructed later in this manual.



!WARNING

Electrocution or fire could result if machine is not grounded and installed in compliance with electrical codes. Compliance **MUST** be verified by a qualified electrician!

Full Load Amperage Draw

This machine draws the following amps under maximum load:

Amp Draw..... 12 Amps

Power Supply Circuit Requirements

The power supply circuit for your machine **MUST** be grounded and rated for the amperage given below. Never replace a circuit breaker on an existing circuit with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. **If you are unsure about the wiring codes in your area or you plan to connect your machine to a shared circuit, consult a qualified electrician.**

Minimum Circuit Size..... 15 Amps

Power Connection Device

The type of plug required to connect your machine to power depends on the type of service you currently have or plan to install. We recommend using the plug shown in **Figure 2**.

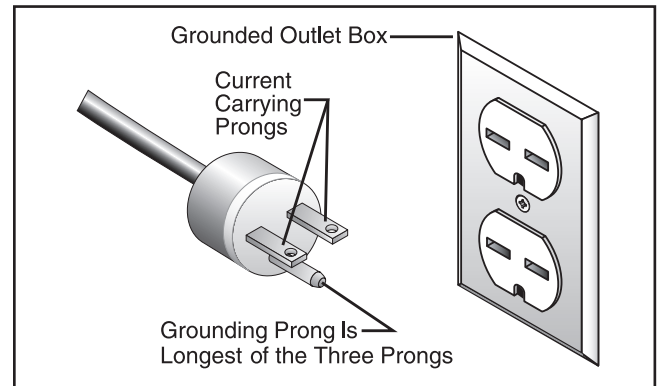


Figure 2. NEMA 6-15 plug and receptacle.

Extension Cords

Using extension cords may reduce the life of the motor. Instead, place the machine near a power source. If you must use an extension cord:

- Use at least a 14 gauge cord that does not exceed 50 feet in length!
- The extension cord must also have a ground wire and plug pin.
- A qualified electrician **MUST** size cords over 50 feet long to prevent motor damage.



Inventory

After all the parts have been removed from the shipping containers, you should have the following items:

Inventory: (Figures 3–6)	Qty
A. Lathe Assembly	
—Headstock (mounted)	1
—Tool Rest Base (mounted).....	1
—Tailstock (mounted)	1
—Faceplate 6" (installed)	1
B. Stand Legs	2
C. Machine Feet.....	4
D. Tool Rest.....	1
E. Spur Center MT#2.....	1
F. Live Center MT#2.....	1
G. Hex Wrenches 3, 4, 6, 8mm	1 Ea.
H. Knockout Tool	1
I. Indexing Pin.....	1
J. Storage Basket.....	1
K. Hardware (not shown)	
—Cap Screws M8-1.25 x 35	10
—Lock Washers 8mm.....	10
—Hex Nuts M8-1.25.....	2

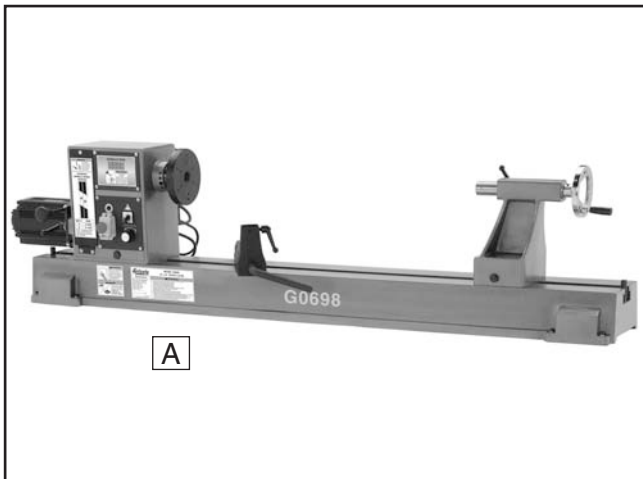


Figure 3. Lathe assembly.

NOTICE

Some hardware/fasteners on the inventory list may arrive pre-installed. Check mounting locations before assuming that any items from the inventory list are missing.

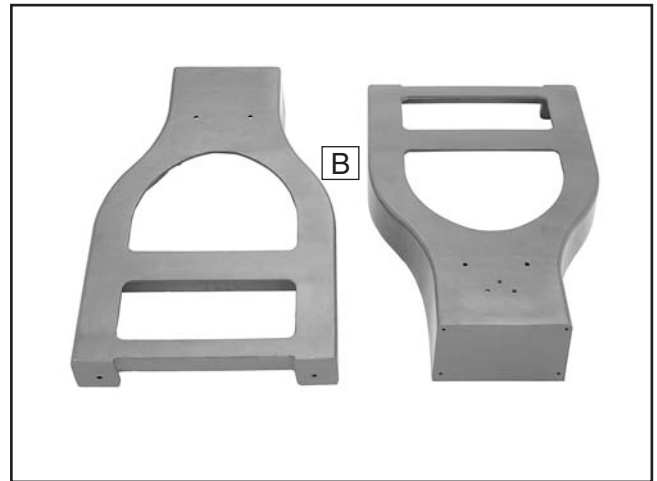


Figure 4. Stand legs.

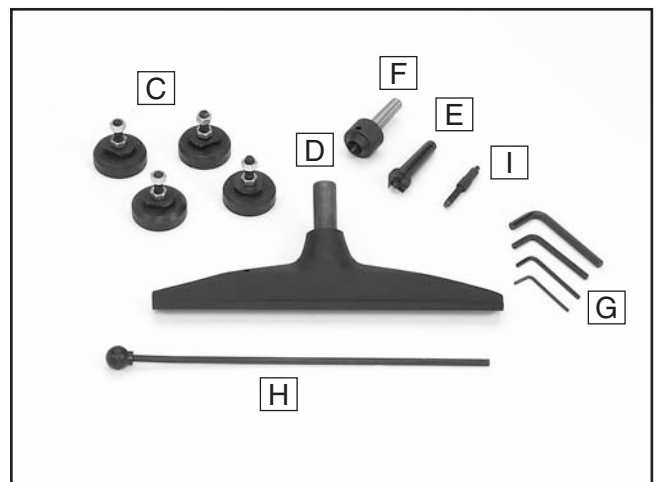


Figure 5. Loose inventory components.

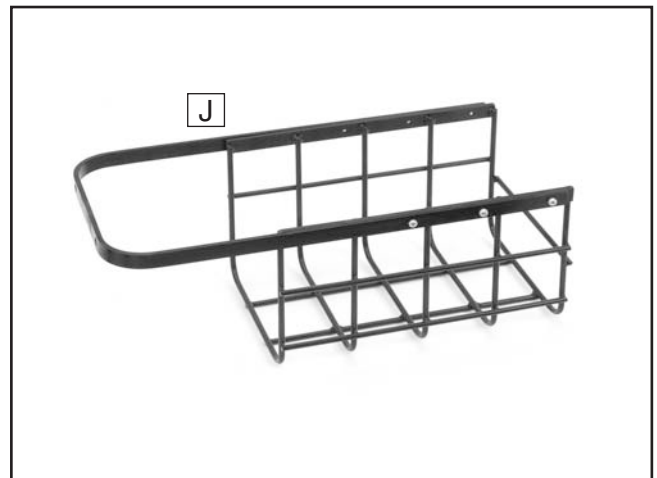


Figure 6. Storage basket.

If any nonproprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.



Cleanup

The unpainted surfaces of your machine are coated with a heavy-duty rust preventative that prevents corrosion during shipment and storage.

This rust preventative has been your machine's close ally and guardian since it left the factory. If your machine arrived to you free of rust, then be thankful that the rust preventative protected it during its journey...and try to stay thankful as you clean it off, because it can be challenging to remove if you are unprepared and impatient.

Plan on spending some time cleaning your machine. The time you spend doing this will reward you with smooth sliding parts and a better appreciation for the proper care of your machine's unpainted surfaces.

Although there are many ways to successfully remove the rust preventative, these instructions walk you through what works well for us.

Before cleaning, gather the following:

- Disposable Rags
- Cleaner/degreaser (see below)
- Safety glasses & disposable gloves

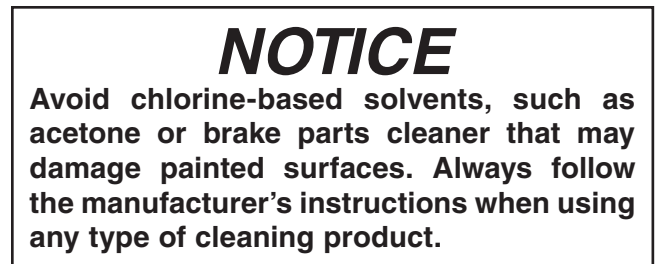
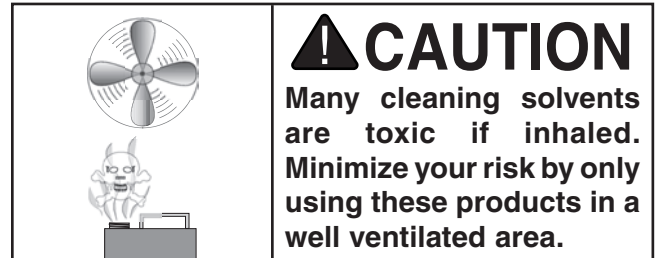
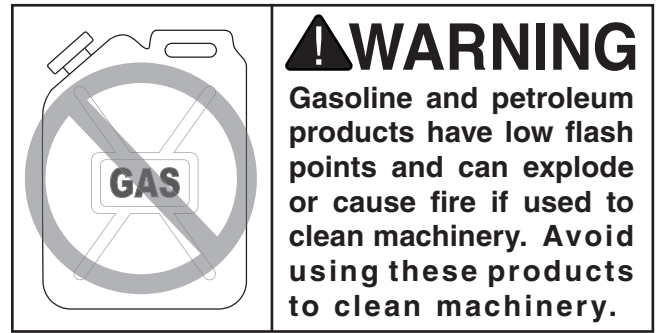
H9692—Orange Power Cleaner & Degreaser

One of the best cleaners we've found for quickly and easily removing rust preventative.



Figure 7. Model H9692 Industrial Orange Power Cleaner/Degreaser (99.9% biodegradable).

Note: *In a pinch, automotive degreasers, mineral spirits or WD•40 can be used to remove rust preventative. Before using these products, though, test them on an inconspicuous area of your paint to make sure they will not damage it.*



Basic steps for removing rust preventative:

1. Put on safety glasses and disposable gloves.
2. Coat all surfaces that have rust preventative with a liberal amount of your cleaner/degreaser and let them soak for few minutes.
3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily.

Note: *To clean off thick coats of rust preventative on flat surfaces, such as tables, use a PLASTIC paint scraper to scrape off the majority of the coating before wiping it off with your rag. (Do not use a metal scraper or you may scratch your machine.)*

4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.



Site Considerations

Weight Load

Refer to the **Machine Data Sheet** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual. **See below for required space allocation.**



Physical Environment

The physical environment where your machine is operated is important for safe operation and the longevity of its components. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature range exceeds 41°–104°F; the relative humidity range exceeds 20–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device.

Lighting

Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

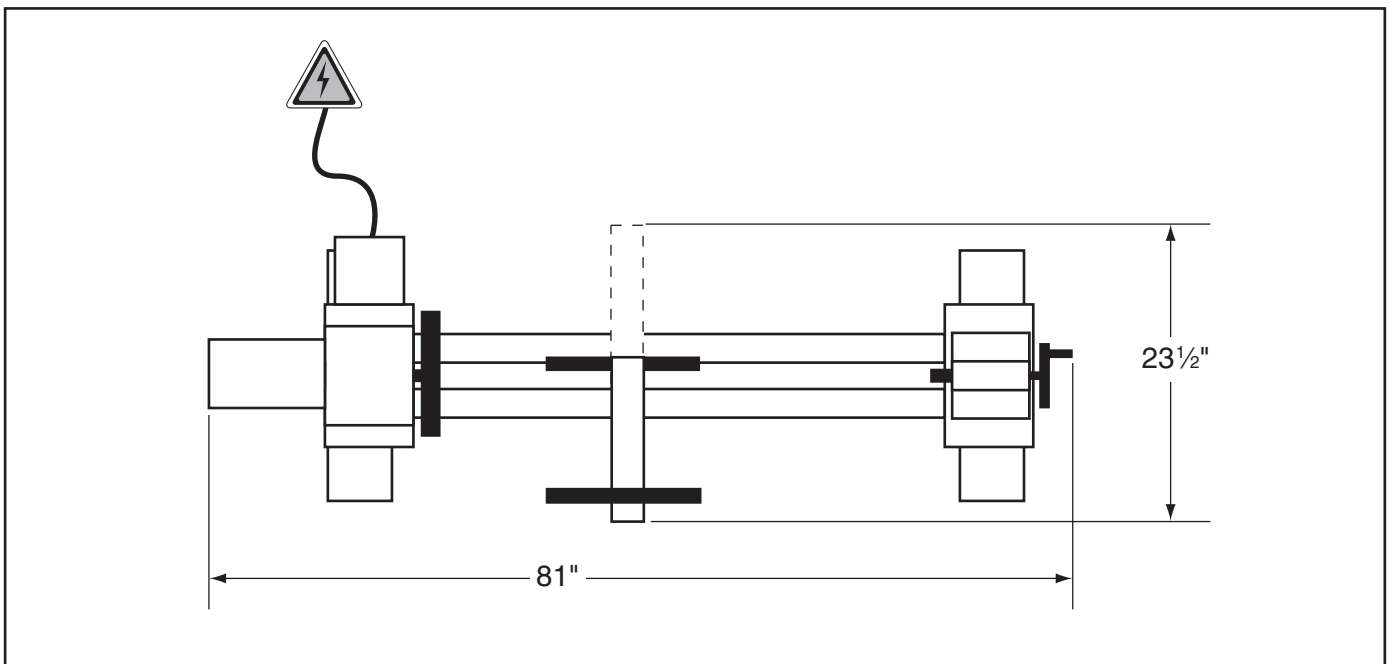


Figure 8. Space required for full range of movement.



Assembly

To assemble your lathe:

1. Stand the right and left supporting legs up approximately $57\frac{3}{4}$ " apart, and get them reasonably aligned, as shown in **Figure 9**.

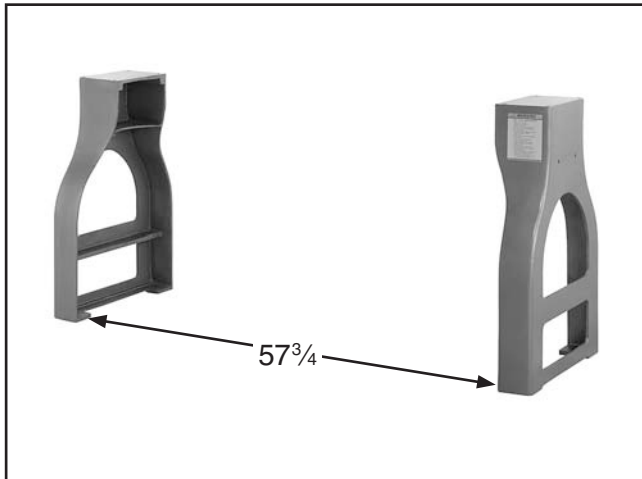
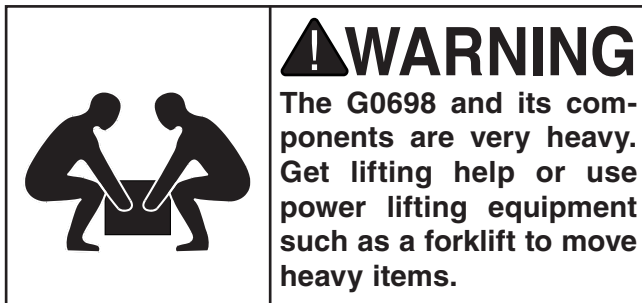


Figure 9. Supporting legs.



2. Using the help of assistants, carefully lift the lathe onto the stands and align the mounting holes.

Note: The headstock end of the lathe is the heaviest and usually requires two people to safely lift it.

Continued on next page →

3. Secure the lathe assembly to the supporting legs with the (8) M8-1.25 x 35 cap screws and 8mm flat washers (see **Figure 10**).

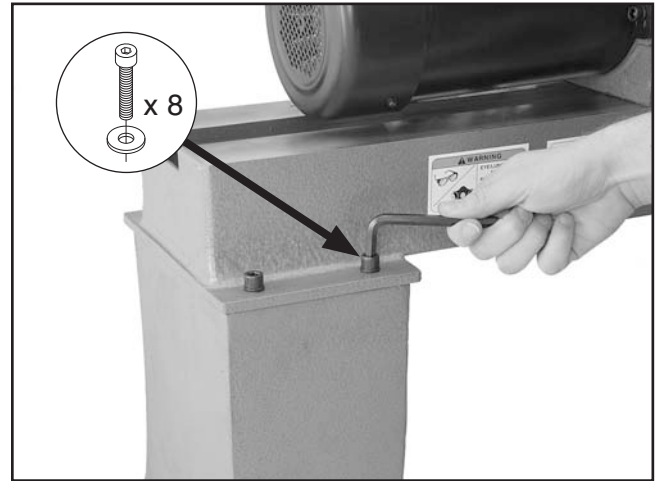


Figure 10. Securing lathe assembly.

4. If you are bolting your lathe to the floor, skip to **Step 7**. Otherwise, move the tailstock, tool rest assembly, and headstock to one end of the lathe bed (see the **OPERATIONS** section beginning on **Page 18** for instructions for moving these components).
5. Use assistants to lift one end of the lathe onto support blocks in preparation for installing the machine feet (see **Figure 11**).

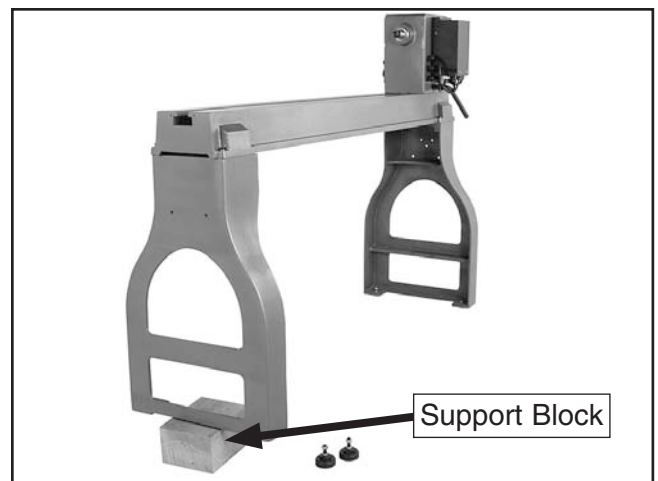


Figure 11. Legs supported for feet installation.

Note: Use assistants to support and stabilize the lathe while you install the machine feet.



- Remove the top hex nut from the feet, then insert the feet into the mounting holes of the leg, as shown in **Figure 12**. Do not tighten the hex nuts yet. Repeat **Steps 5–6** on the other legs.



Figure 12. Machine feet installed.

- Place a level on the lathe bed and make necessary adjustments so that the bed is level from side-to-side and front-to-back.

—If you are using the machine feet, adjust the top and bottom hex nuts on each leg to level the bed; then tighten the hex nuts to secure these adjustments.

—If you are bolting your lathe to the floor, use shims under the legs to level the bed; then tighten the mounting fasteners.

- Insert the tool rest into the tool rest base and tighten the tool rest lock lever (see **Figure 13**).

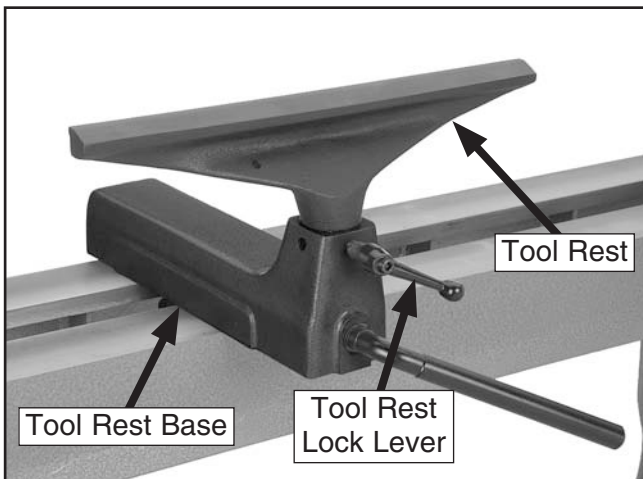


Figure 13. Tool rest installed on the tool rest base.

- Attach the storage basket to the leg using the remaining M8-1.25 x 35 cap screws, flat washers, and hex nuts, as shown in **Figure 14**.

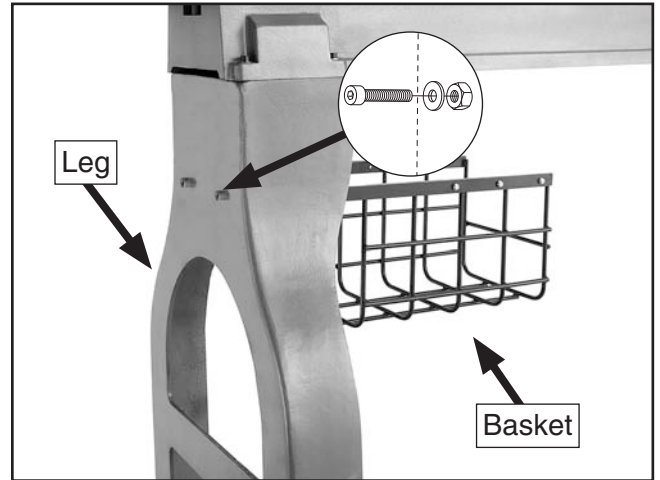


Figure 14. Attaching basket to leg.



Mounting to Shop Floor

Although not required, we recommend that you mount your new machine to the floor. Because this is an optional step and floor materials may vary, floor mounting hardware is not included.

If you choose to mount the machine to the floor, assemble the machine without installing the four leveling feet, then use a precision level to make sure the bed is level side-to-side and front-to-back. If necessary, place metal shims under the stand legs.

The holes left after removing the feet on either side of the lathe will accept $\frac{3}{8}$ " mounting hardware (see **Figure 15**).

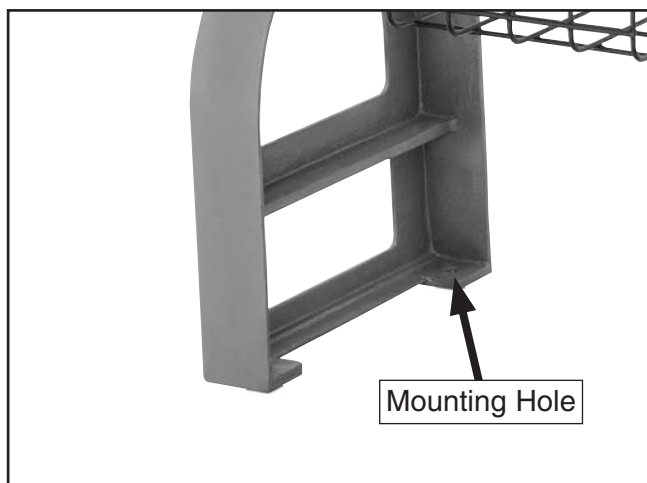


Figure 15. Left side mounting holes.

NOTICE

To ensure long life from you lathe and good turning results, make sure the bed is level side-to-side and front-to-back. Re-check the bedways two weeks after the initial placement of the machine, then annually thereafter.

Bolting to Concrete Floors

Anchor studs and lag shield anchors with lag bolts (**Figure 16**) are two popular methods for anchoring an object to a concrete floor. We suggest you research the many options and methods for mounting your machine and choose the best that fits your specific application.

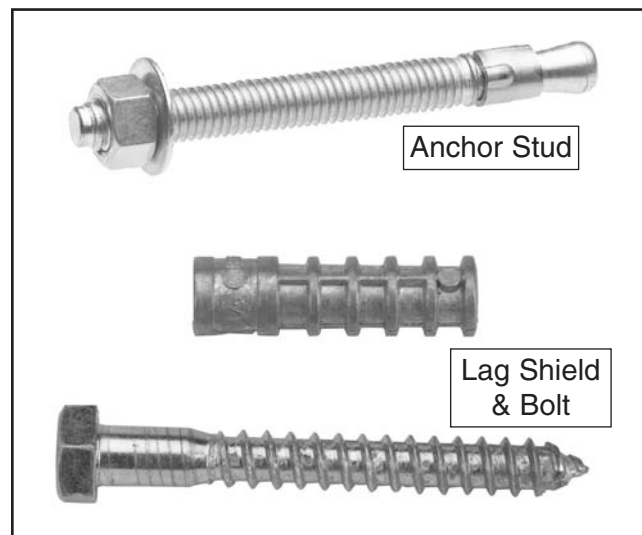


Figure 16. Typical fasteners for mounting to concrete floors.

NOTICE

We strongly recommend securing your machine to the floor if it is hardwired to the power source. Consult with your electrician to ensure compliance with local codes.



Test Run

Once the assembly is complete, test run your machine to make sure it runs properly and is ready for regular operation. The test run consists of verifying the following: 1) The motor powers up and runs correctly and 2) the stop button safety feature works correctly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review **Troubleshooting** on **Page 37**.

If you cannot find a remedy, contact our Tech Support at (570) 546-9663 for assistance.

WARNING

Before starting the lathe, make sure you have performed the preceding assembly and adjustment instructions, and you have read through the rest of the manual and are familiar with the various functions and safety features on this machine. Failure to follow this warning could result in serious personal injury or even death!

To test run your lathe:

1. Make sure you understand the safety instructions at the beginning of the manual and that the machine is set up properly.
2. Make sure all tools and objects used during setup are cleared away from the machine.
3. Connect the machine to the power source.

4. Squeeze the tab on the side of the EMERGENCY stop button in, then lift the button to open the switch cover.

5. Verify that the machine is operating correctly by switching the REV/FWD switch to FWD.

—When operating correctly, the machine runs smoothly with little or no vibration or rubbing noises.

—Investigate and correct strange or unusual noises or vibrations before operating the machine further. Always disconnect the machine from power when investigating or correcting potential problems.

6. Move the REV/FWD switch to the center neutral position to stop the machine, and push in the EMERGENCY stop button.

7. WITHOUT opening the EMERGENCY stop button, turn the REV/FWD switch to FWD and REV. The machine should not start.

—If the machine does not start, the EMERGENCY stop button safety feature is working correctly. The **Test Run** is complete.

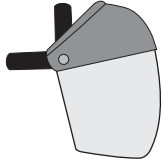
—If the machine does start (with the EMERGENCY stop button pushed in), immediately disconnect power to the machine. The EMERGENCY stop button safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.



SECTION 4: OPERATIONS

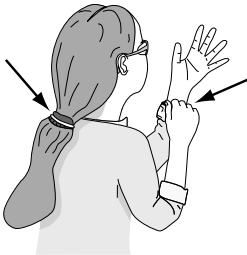
! WARNING

Damage to your eyes and lungs could result from using this machine without proper protective gear. Always wear a face shield and respirator when operating this machine.



! WARNING

Loose hair and clothing could get caught in the lathe and cause serious personal injury. Keep loose clothing and long hair away from moving parts of lathe.



NOTICE

If you have never used a wood lathe before, **WE STRONGLY RECOMMEND** that you read books, trade magazines, or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

Basic Controls

Refer to **Figure 17** and the list below to familiarize yourself with the lathe controls. You will find that understanding the names and descriptions of the controls is useful when reading this **OPERATIONS** section.

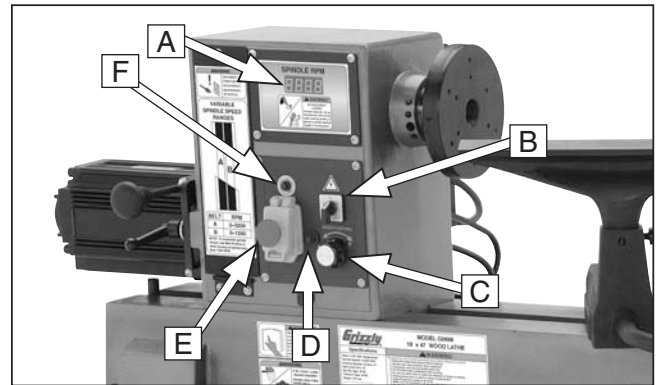


Figure 17. Control panel.

- A. **RPM Digital Readout:** Indicates the spindle speed in RPM (rotations per minute).
- B. **FWD/REV Switch:** Toggles the spindle direction between clockwise or counterclockwise.
- C. **Speed Dial:** Adjusts the spindle speed from low to high within the range governed by the pulley belt position.
- D. **Overload Reset Button:** Resets the overload protector that is triggered if the motor begins to overheat.
- E. **Emergency STOP Button:** Turns the spindle rotation **OFF**.
- F. **Circuit Breaker Reset Button:** Resets the circuit breaker.



Operation Overview

This overview outlines the basic process that happens during a typical operation with this machine. Familiarize yourself with this process to better understand the remaining parts of the **Operation** section.

To complete a typical operation, the operator does the following:

1. Examines the workpiece to make sure it is suitable for turning. No extreme bows, knots, or cracks should exist.
2. Prepares and trims up the workpiece with a bandsaw or table saw to make it roughly concentric.
3. Installs the workpiece between centers.
4. Adjusts the tool rest to $\frac{1}{8}$ " above the workpiece centerline, and sets the minimum clearance between the workpiece and the lip of the tool rest to $\frac{1}{4}$ " gap.
5. Positions any dust collection hoods near the workpiece to collect wood chips and secures in place.
6. Verifies the pulley ratio is set for the type of wood and size of workpiece installed.
7. Verifies the spindle speed dial is turned all the way counterclockwise so the spindle does not start in high speed.
8. Verifies the spindle direction switch is selecting the correct direction.
9. Rotates the workpiece by hand to verify that the spindle and workpiece rotate freely throughout the full range of motion.
10. Ties back loose hair and clothing and puts on face shield and respirator. Takes all other required safety precautions.
11. Starts the lathe and dust collector, adjusts the lathe speed, and carefully begins the turning operation, keeping the chisel against the tool rest the entire time it is cutting.

Stock Inspection & Requirements

Some workpieces are not safe to turn or may require modification before they are safe to turn. **Before turning a workpiece, inspect all workpieces for the following:**

- **Workpiece Type:**
This machine is intended for cutting natural wood products. Never attempt to cut any composite wood materials, plastics, metal, stone, or rubber workpieces; cutting these materials can lead to machine damage or severe injury.
- **Foreign Objects:**
Nails, staples, dirt, rocks and other foreign objects are often embedded in wood. While cutting, these objects can become dislodged and hit the operator, cause tool grab, or break the turning tool, which might then fly apart. Always visually inspect your workpiece for these items. If they can't be removed, DO NOT turn the workpiece.
- **Large/Loose Knots:**
Loose knots can become dislodged during the turning operation. Large knots can cause a workpiece to completely break in half during turning and cause machine damage and injury. Choose workpieces that do not have large/loose knots.
- **Wet or "Green" Stock:**
Cutting wood with a moisture content over 20% causes unnecessary wear on tooling blades, increases the risk of tool grab, and yields poor results.
- **Excessive Warping:**
Workpieces with excessive bowing or twisting are unstable and unbalanced. Never turn these workpieces at high speed, or instability will be magnified and the workpiece can be ejected from the lathe causing injury. Only turn concentric workpieces!



Adjusting Headstock

The Model G0698 headstock is equipped with a cam-action clamping system to secure it to the lathe bed. When the lever is tightened, a locking plate lifts up underneath the bed and secures the tailstock in place. The headstock can be positioned anywhere along the lathe bed.

To position the headstock along the length of the lathe bed:

1. DISCONNECT LATHE FROM POWER!
2. Loosen the headstock lock handle (see **Figure 18**).

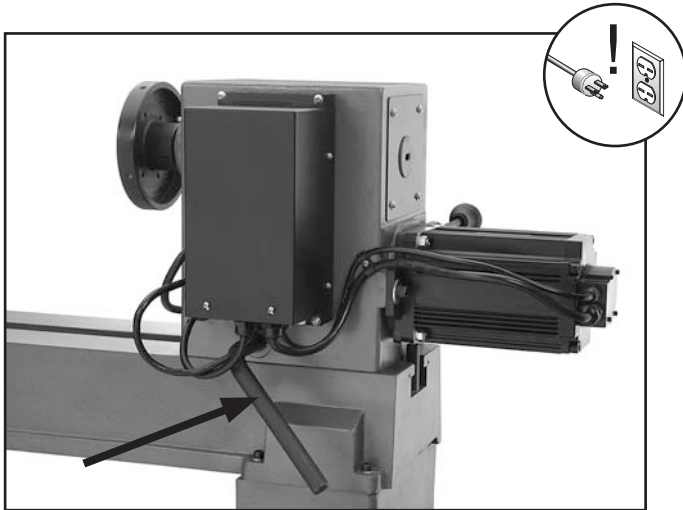


Figure 18. Headstock lock handle.

3. Slide the headstock to the desired location on the bed and use the headstock lock handle to secure the headstock in position.

Note: The large clamping hex nut underneath the headstock will require occasional adjusting to ensure proper clamping pressure of the headstock to the bed. Turn this hex nut in small increments to fine tune the clamping pressure as needed.

⚠️ WARNING

Always operate the lathe with the headstock firmly locked to the bed. Otherwise, serious personal injury may occur.

Adjusting Tailstock

The tailstock is equipped with a cam-action clamping system to secure it to the lathe bed. When the lever is tightened, a locking plate lifts up underneath the bed and secures the tailstock in place.

To position the tailstock along the length of the bed:

1. Loosen the tailstock lock handle and move the tailstock to the desired position along the bed (see **Figure 19**).

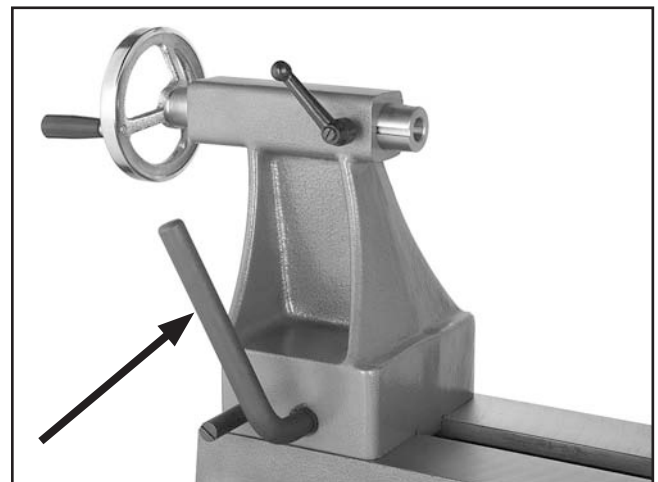


Figure 19. Tailstock lock handle.

2. Re-engage the tailstock lock handle to secure the tailstock to the bed.

Note: The large clamping hex nut underneath the tailstock will require occasional adjusting to ensure proper clamping pressure of the tailstock to the bed. Turn this hex nut in small increments to fine tune the clamping pressure as needed.

⚠️ WARNING

Always operate the lathe with the tailstock firmly locked to the bed. Otherwise, serious personal injury may occur.



Adjusting Tool Rest

The tool rest base is equipped with a cam-action clamping system to secure it to the lathe bed. When the tool rest base lock handle is tightened, a locking plate lifts up and secures the tool rest assembly to the bed. The tool rest can also be positioned and locked at a specific angle or height.

To position the tool rest assembly along the length of the lathe bed:

1. Loosen the tool rest base lock handle and move the tool rest assembly to the desired position on the lathe bed (see **Figure 20**).

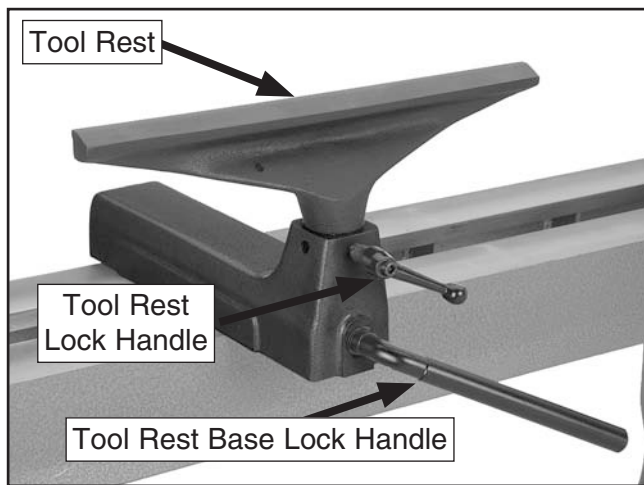


Figure 20. Tool rest controls.

2. Re-engage the tool rest base lock handle to secure the tool rest assembly in position.

Note: *The large clamping hex nut underneath the tool rest base will require occasional adjusting to ensure proper clamping pressure of the tool rest assembly to the bed. Turn this hex nut in small increments to fine tune the clamping pressure as needed.*

⚠WARNING

Always operate the lathe with the tool rest assembly firmly locked in position. Otherwise, serious personal injury may occur.

To adjust the angle or height of the tool rest:

1. Loosen the tool rest lock handle and adjust the angle or height of the tool rest.
2. Position the tool rest approximately $\frac{1}{4}$ " away from the workpiece and approximately $\frac{1}{8}$ " above the workpiece center line (see **Figure 21**).

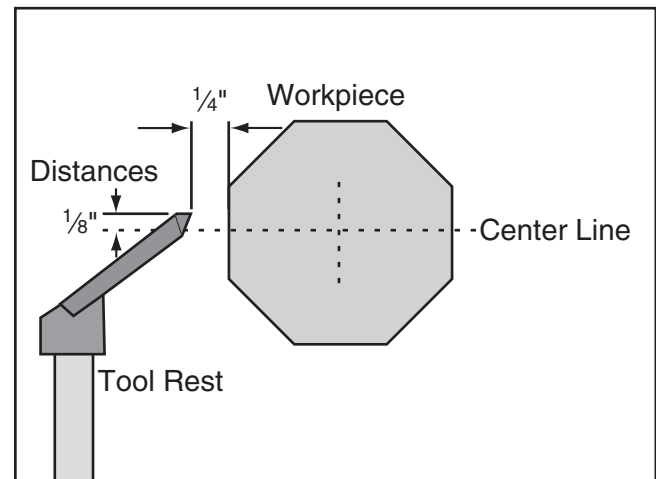


Figure 21. Tool rest position relative to workpiece.

3. Re-tighten the tool rest lock handle to secure the tool rest in position.



Installing/Removing Headstock Center

The included spur center installs into the headstock spindle with an MT#2 tapered fit.

Installing the Headstock Center

1. DISCONNECT LATHE FROM POWER!
2. Make sure the mating surfaces of the center and spindle are free of debris and oily substances before inserting the center.
3. Insert the tapered end of the center into the spindle, and push it in with a quick, firm motion (see **Figure 22**).

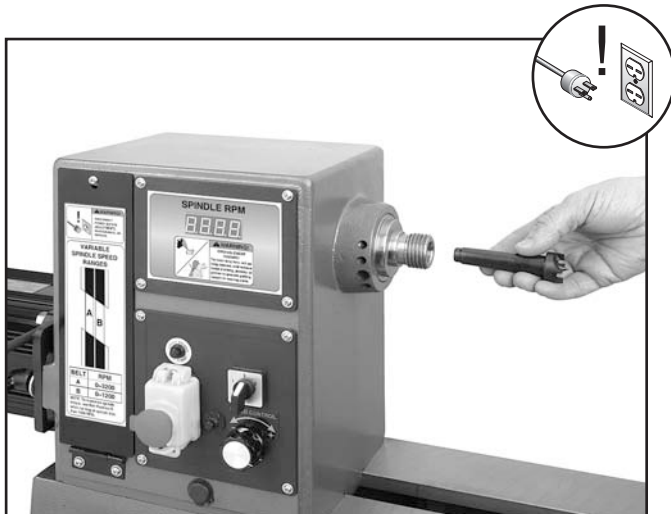


Figure 22. Installing center into the headstock spindle.

4. Make sure the center is securely installed by attempting to pull it out by hand—a properly installed center will not pull out easily.

Removing the Headstock Center

1. DISCONNECT LATHE FROM POWER!
2. Hold a clean rag under the spindle or wear a glove to catch the center when you remove it.
3. Insert the knockout tool through the outbound end of the spindle and firmly tap the back of center, catching it as it falls (see **Figure 23**).

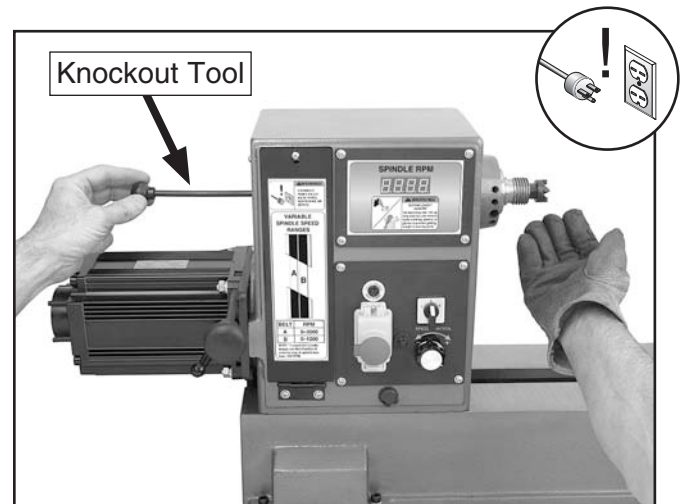


Figure 23. Removing the headstock center.



Installing/Removing Tailstock Center

The included live center installs into the tailstock quill with an MT#2 tapered fit.

Installing the Tailstock Center

1. Loosen the quill lock handle and rotate the tailstock handwheel until the quill extends out about 1" (see **Figure 24**).

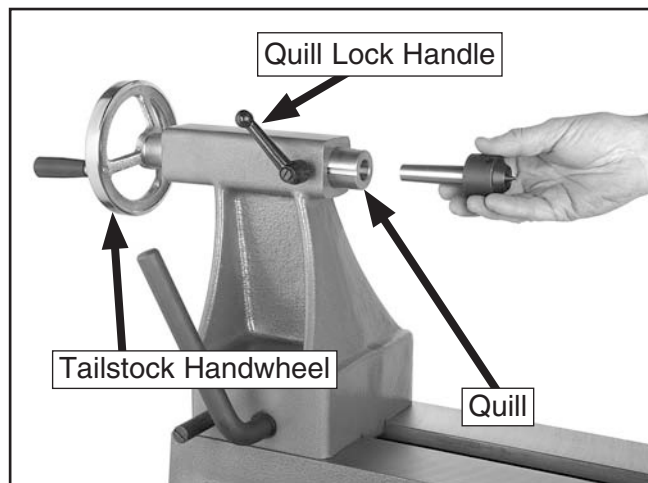


Figure 24. Installing center into tailstock quill.

2. Make sure the mating surfaces of the center and quill are free of debris and oily substances before inserting the center.
3. Firmly insert the tapered end of the center into the tailstock quill, as shown in **Figure 24**.
4. Make sure the center is securely installed by attempting to pull it out by hand—a properly installed center will not pull out by hand.
5. Make sure the center of the quill lock handle is aligned with the quill keyway (see **Figure 25**) to ensure that the tailstock center and quill will not freely rotate under load.

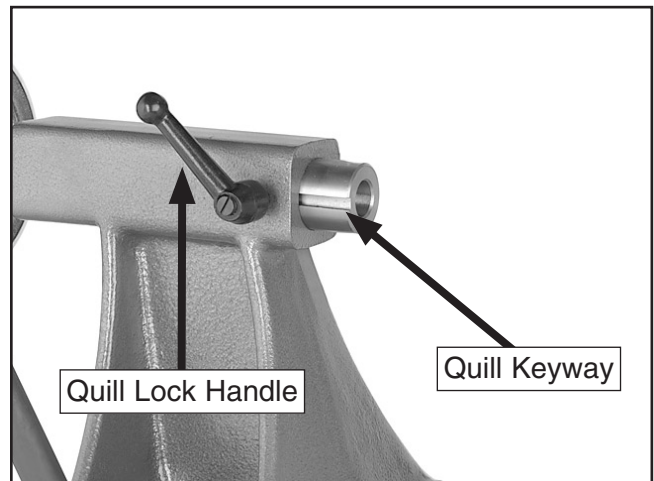


Figure 25. Quill lock handle aligned with quill keyway.

6. Secure the quill in place by re-tightening the quill lock handle.

Removing the Headstock Center

1. Loosen the quill lock handle.
2. Hold a clean rag under the spindle or wear a glove to catch the center when you remove it.
3. Rotate the tailstock handwheel counterclockwise—the tailstock quill will retract back into the quill, causing the center to be forced out of the quill.

⚠️ WARNING

The tailstock quill must always be locked in place during lathe operation. Before tightening the quill lock handle, it must be properly aligned with the quill keyway. Otherwise, the workpiece can be thrown from the lathe causing serious personal injury or death.



Installing Headstock Faceplate

To install the headstock faceplate:

1. DISCONNECT LATHE FROM POWER!
2. Thread the faceplate onto the spindle until it is snug. If necessary, insert the indexing pin into one of the indexing holes and rotate the spindle until the pin engages to prevent the spindle from turning while you tighten the faceplate (**Figure 26**).

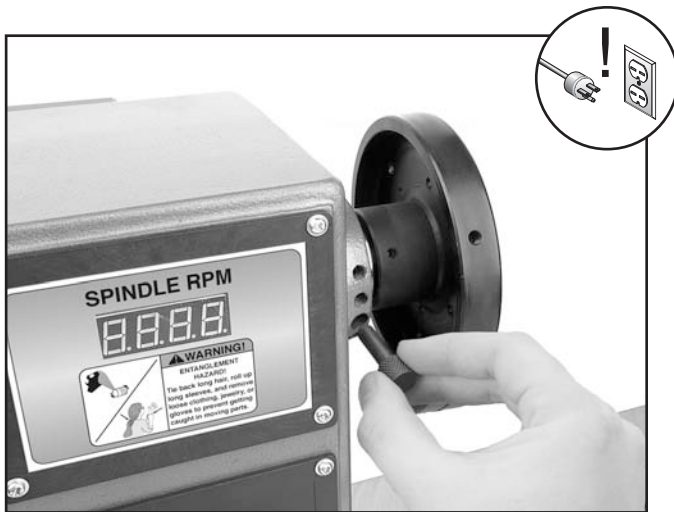


Figure 26. Locking spindle with indexing pin.

3. Using the included 4mm hex wrench, tighten the two set screws along the inside diameter of the faceplate to secure it to the spindle (see **Figure 27**).

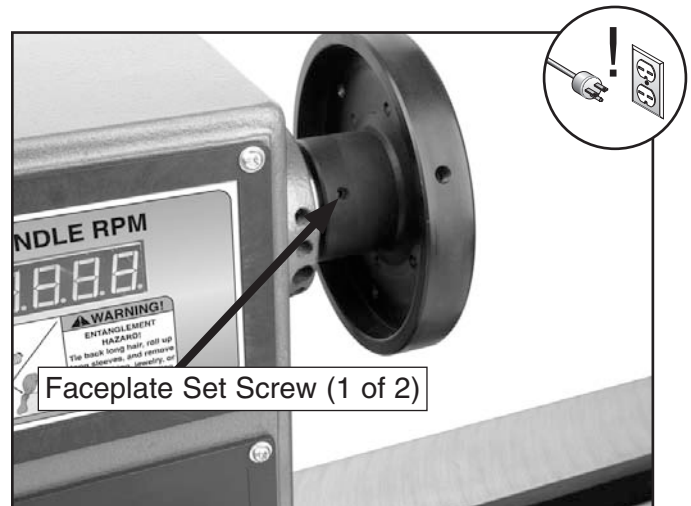


Figure 27. Headstock faceplate set screw.

⚠ WARNING

To prevent the faceplate and workpiece separating from the spindle during operation, the headstock faceplate **MUST** be firmly threaded onto the spindle and secured in place by fully tightening the two faceplate set screws. If these instructions are not properly performed, serious personal injury could occur.

Note: To remove the headstock faceplate, disconnect the lathe from the power source and perform the steps above in reverse.



Changing Speed Ranges

The Model G0698 has two speed ranges: 1) the low range from 100 to 1200 RPM which provides a greater torque, and 2) the high range from 330 to 3200 RPM.

Note: To maximize spindle torque, use the low spindle speed range for spindle speeds of 1200 RPM or less.

Refer to the speed recommendations chart (see **Figure 28**) to choose the appropriate RPM for your operation. Then choose the speed range that will include the selected RPM.

Diameter of Work-piece	Roughing RPM	General Cutting RPM	Finishing RPM
Under 2"	1520	3200	3200
2-4"	760	1600	2480
4-6"	510	1080	1650
6-8"	380	810	1240
8-10"	300	650	1000
10-12"	255	540	830
12-14"	220	460	710
14-16"	190	400	620

Figure 28. Model G0698 speed recommendations.

To change speed ranges:

1. DISCONNECT LATHE FROM POWER!
2. Open the front belt access panel (see **Figure 29**).

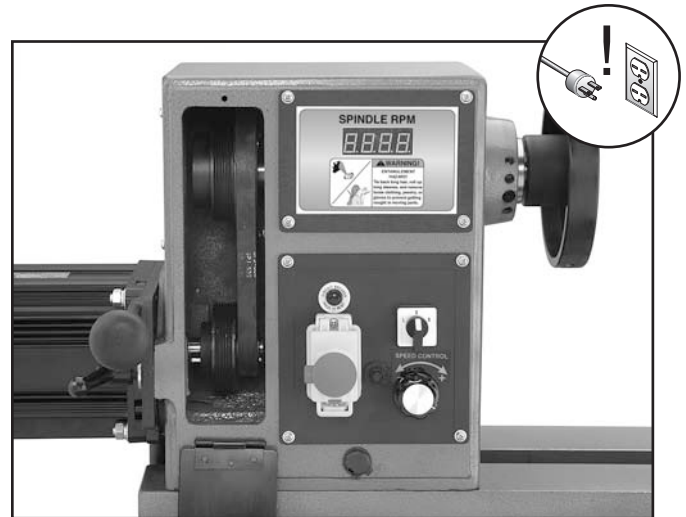


Figure 29. Belt access panel removed.

3. Loosen the belt tension lock handle (**Figure 30**).

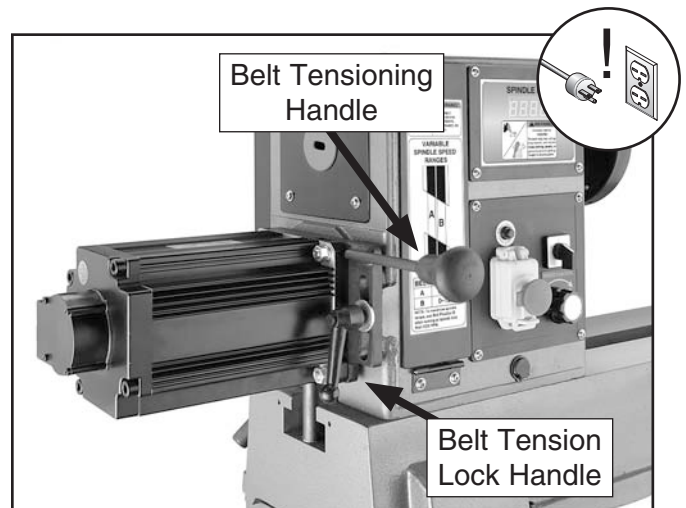


Figure 30. Motor tensioning handle and tension lock handle.



- Use the belt tensioning handle to lift the motor assembly all the way up, then re-tighten the belt tension lock handle—this will hold the motor in place while you change the belt position.
- Reach into the belt access cavity and roll the belt onto the desired set of pulleys (see **Figure 31**).

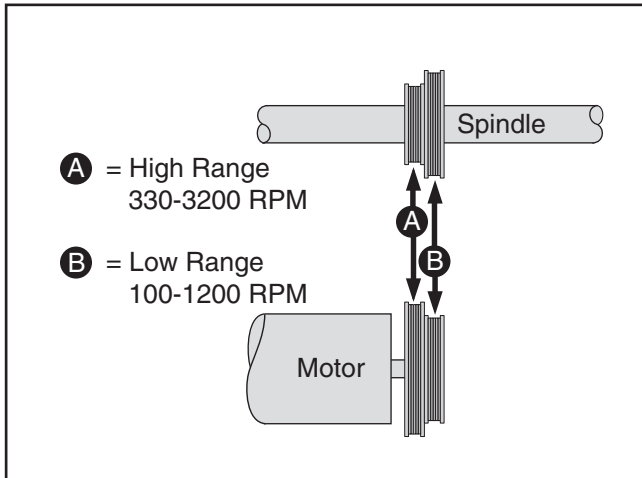


Figure 31. Speed range belt positions.

⚠️ WARNING

Always choose the correct spindle speed for your operation. Using the wrong speed may lead to the workpiece breaking loose or being thrown from the lathe at a high rate of speed, causing fatal or severe impact injuries.

- Loosen the belt tension lock handle and lower the motor.

- Apply downward pressure on the belt tensioning handle to properly tension the drive belt, then re-tighten the belt tension lock handle.

Note: When properly tensioned, the belt should deflect about $\frac{1}{8}$ " when moderate pressure is applied to the belt mid-way between the upper and lower pulley (see **Figure 32**).

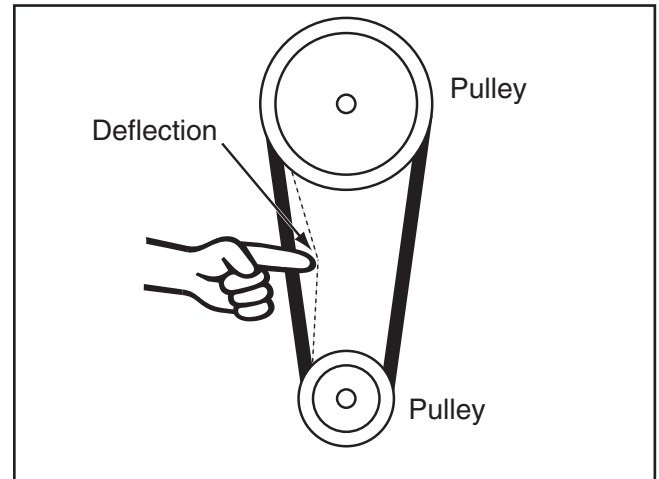


Figure 32. Testing for $\frac{1}{8}$ " belt deflection.

- Replace the front belt access panel.



Indexing

Indexing on a lathe is typically used for workpiece layout and other auxiliary operations that require equal distances around the workpiece circumference, such as clock faces or inlays.

By inserting the indexing pin into one of the four outer indexes of the Model G0698 spindle housing and engaging one of the 12 inner indexes in the spindle, the workpiece can be positioned in 10° increments (see **Figure 33**).

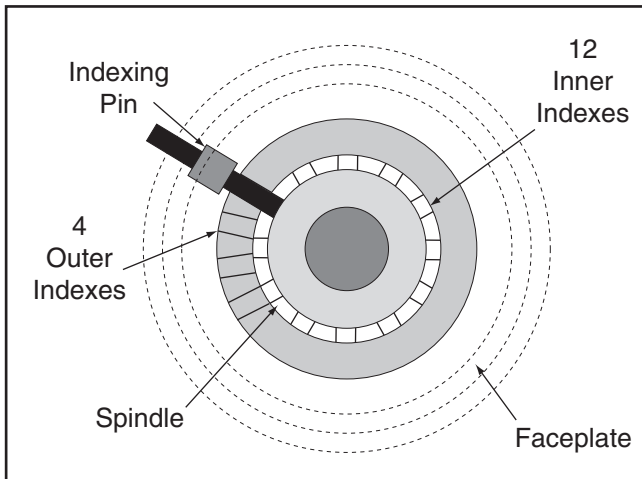


Figure 33. Model G0698 indexing configuration.

To use the indexing feature, place the indexing pin into one of the indexing holes in the headstock, as shown in **Figure 34**. This will hold the spindle and workpiece at the desired indexed position.

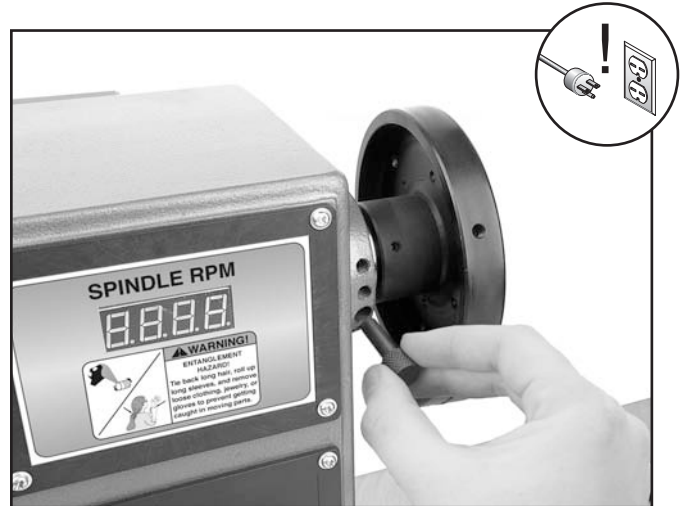


Figure 34. Indexing pin and indexing holes.

CAUTION

Always disconnect the lathe from power before using the indexing feature of this lathe. **DO NOT** start the lathe with the indexing pin inserted into the spindle; otherwise property damage and personal injury could result.



Selecting Turning Tools

Lathe tools come in a variety of shapes and sizes, and usually fall into five major categories.

- **Gouges**—Mainly used for rough cutting, detail cutting, and cove profiles. The rough gouge is a hollow, double-ground tool with a round nose, and the detail gouge is a hollow, double-ground tool with either a round or pointed nose.

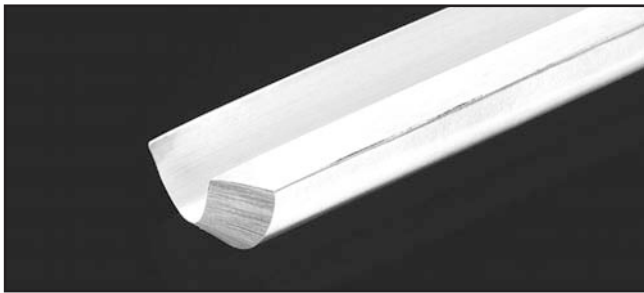


Figure 35. Example of a gouge.

- **Skew Chisel**—A very versatile tool that can be used for planing, squaring, V-cutting, beading, and parting off. The skew chisel is flat, double-ground with one side higher than the other (usually at an angle of 20°–40°).

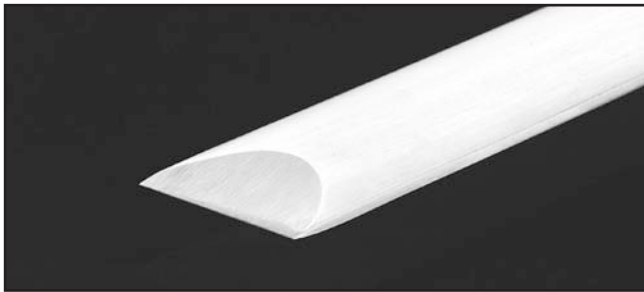


Figure 36. Example of a skew chisel.

- **Scrapers**—Typically used where access for other tools is limited, such as hollowing operations. This is a flat, double-ground tool that comes in a variety of profiles (round nose, spear point, square nose, etc.) to match many different contours.



Figure 37. Example of a round nose scraper.

- **Parting Tools**—Used for sizing and cutting off work. This is a flat tool with a sharp pointed nose that may be single- or double-ground.



Figure 38. Example of a parting tool.

- **Specialty Tools**—These are the unique, special function tools to aid in hollowing, bowl making, cutting profiles, etc. The Swan Neck Hollowing Tool shown on **Page 35** is a good example of a speciality tool.



Spindle Turning

Spindle turning is the operation performed when a workpiece is mounted between the headstock and the tailstock (see **Figure 39**).

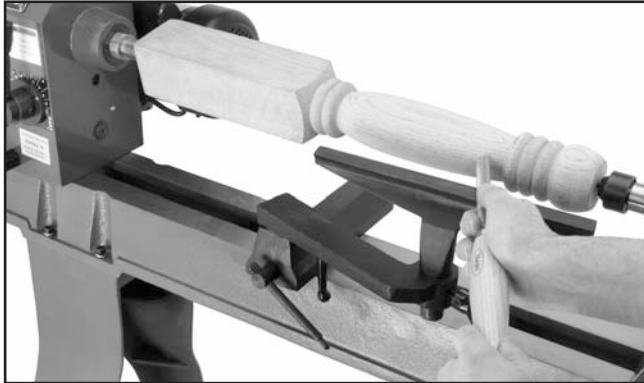
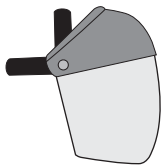


Figure 39. Typical spindle turning operation.

!WARNING

Damage to your eyes and lungs could result from using this machine without proper protective gear. Always wear a face shield and respirator when operating this machine.



To set up a spindle turning operation:

1. Find the center point of both ends of your workpiece by drawing diagonal lines from corner to corner across the end of the workpiece (see **Figure 40**).

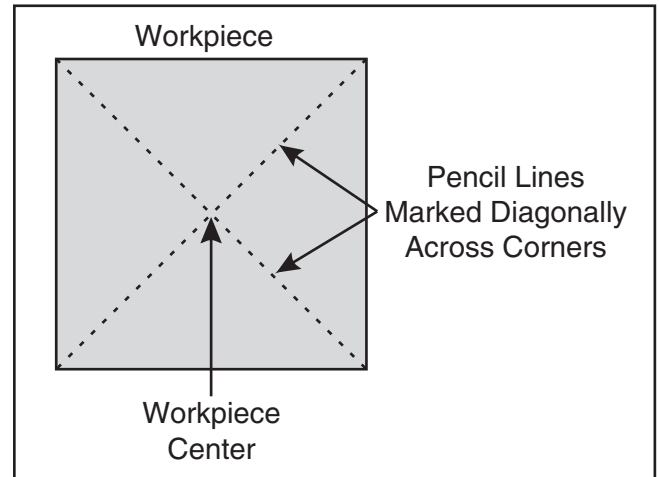


Figure 40. Workpiece marked diagonally from corner to corner to determine the center.

2. Using a wood mallet, tap the point of the spur center into the center of the workpiece on both ends, leaving an indented center mark.
3. Using a $\frac{1}{4}$ " drill bit, drill a $\frac{1}{4}$ " deep hole at the center mark on the end of the workpiece to be mounted on the headstock spur center.



4. To help embed the spur center into the workpiece, cut $\frac{1}{8}$ " deep saw kerfs in the same end of the workpiece along the diagonal lines marked in **Step 1**.
5. If your workpiece is over 2" x 2", cut the corners off the workpiece length-wise to make turning safer and easier.
6. Drive the spur center into the end center mark of the workpiece with a wood mallet to embed it at least $\frac{1}{4}$ " into the workpiece (see **Figure 41**).

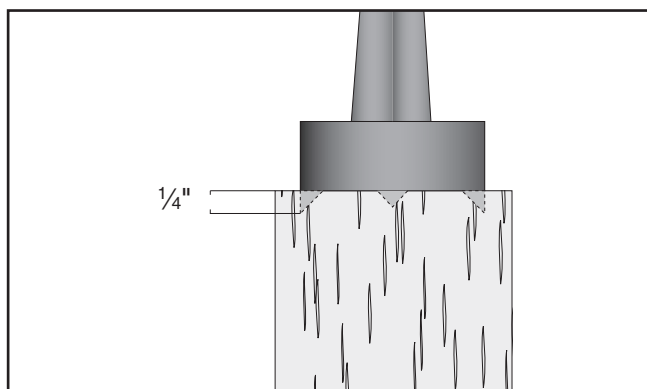


Figure 41. Spur center properly embedded.

7. With the workpiece still attached, insert the spur center into the headstock spindle (refer to **Installing/Removing Headstock Center** on **Page 22** for additional instructions).

Note: Use the tool rest to support the opposite end of the workpiece so that the workpiece and spur center do not separate.

8. Install the live center into the tailstock quill and tighten the quill lock handle to lock the quill in position (refer to **Page 23** for additional instructions).
9. Slide the tailstock toward the workpiece until the point of the live center touches the workpiece center mark, then lock the tailstock in this position.
10. Loosen the quill lock handle and rotate the tailstock handwheel to push the live center into the workpiece at least a $\frac{1}{4}$ ".

⚠️ WARNING

Do not press the workpiece too firmly with the tailstock or the bearings will bind and overheat. Likewise, do not adjust too loosely or the workpiece will spin off the lathe. Use good judgment and care, otherwise, serious personal injury could result.

11. Properly adjust the tool rest to the workpiece (see **Page 21**).
12. Before beginning lathe operation, rotate the workpiece by hand to ensure that there is safe clearance on all sides.

⚠️ WARNING

Keep the lathe tool resting on the tool rest the ENTIRE time that it is in contact with workpiece or when preparing to make contact between lathe tool and workpiece. Otherwise, the spinning workpiece could force the lathe tool out of your hands or entangle your hands with the workpiece. Failure to heed this warning could result in serious personal injury.

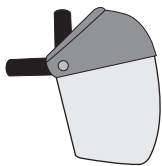


Spindle Turning Safety Tips:

- When turning the lathe **ON**, stand away from the path of the spinning workpiece until the lathe reaches full speed and you can verify that the lathe will not throw the workpiece.
- Use the slowest speed when starting or stopping the lathe.
- Select the right speed for the size of workpiece that you are turning:
 - Use the slower speeds for large workpieces (diameters of 3" and over) and for rough cutting.
 - Use the faster speeds for workpieces under 3".
- Keep the turning tool on the tool rest the ENTIRE time that it is in contact with the workpiece.
- Learn the correct techniques for each tool you will use. If you are unsure about how to use the lathe tools, read books or magazines about lathe techniques and seek training from experienced and knowledgeable lathe users.

!WARNING

Damage to your eyes and lungs could result from using this machine without proper protective gear. Always wear a face shield and respirator when operating this machine.



Faceplate Turning

Faceplate turning is when a workpiece is mounted to the faceplate, which is then mounted to the headstock spindle, as shown in **Figure 42**. This type of turning is usually done with open-faced workpieces like bowls or plates.

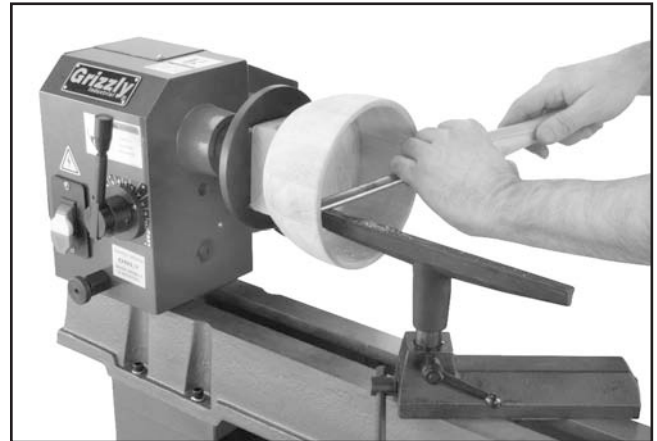


Figure 42. Typical faceplate turning operation.

Mounting the Workpiece onto the Faceplate

1. Mark the workpiece center as in **Spindle Turning** (see **Page 29**).

Note: Cut off corners of the workpiece to make it as close to "round" as possible.

2. Center the faceplate on the workpiece and attach it with wood screws that do not have tapered heads (see **Figure 43**).

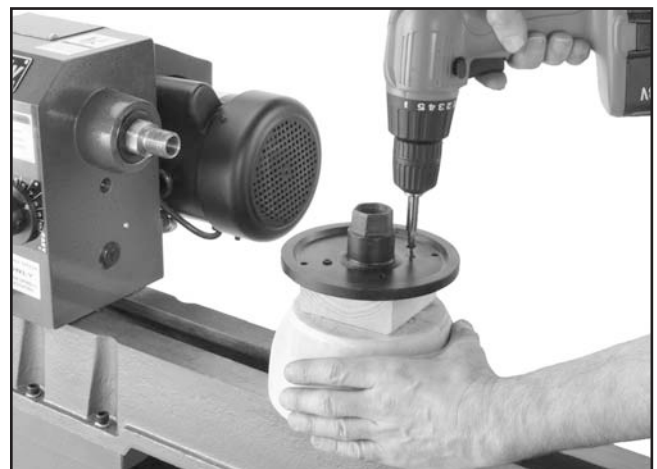


Figure 43. Typical attachment of faceplate to workpiece (shown with backing block).



NOTICE

Only use screws with non-tapered heads (Figure 44) to attach the faceplate to the workpiece. Do NOT use screws with tapered heads because they can split the faceplate, or may snap off during operation.

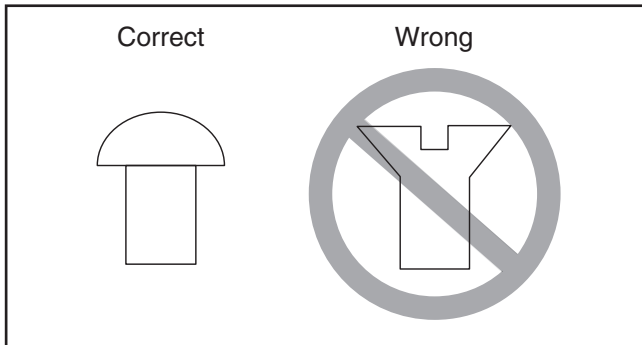


Figure 44. Correct and incorrect screw types.

3. Thread and secure the faceplate onto the headstock spindle (refer to **Headstock Faceplate** on **Page 24** for faceplate mounting instructions).

If wood screws cannot be placed in the workpiece, then the faceplate can be mounted on a backing block that is glued to the workpiece.

Mounting the Workpiece onto a Backing Block

1. Make the backing block from a piece of scrap wood that is flat on both sides.
2. Locate and mark the center of both the workpiece and backing block.
3. Drill a 1/4" hole through the center of the backing block.
4. Looking through the hole in the backing block to line up the center with the workpiece, glue and clamp the backing block to the workpiece.

Note: Allow the glue to cure according to the manufacturer's instructions.

5. Follow Steps 1–3 under **Mounting the Workpiece onto the Faceplate** on this page to attach the backing block to the faceplate.

Outboard Turning

Outboard turning is a variation of faceplate turning and is usually done with the headstock rotated 90° or 180°, so the faceplate is not directly over the bed, allowing a much larger turning capacity than the swing specification of the lathe. However, given the size of this lathe and the minimum turning speed available, the maximum workpiece diameter that can safely be outboard-turned is limited to 17".

The only way to rotate the headstock on this machine is to remove it from the bed first, which can be a heavy and cumbersome task. A much simpler alternative to removing the headstock is to simply remove the tailstock and slide the headstock to the other end of the bed. This will position the spindle so it is not directly over the bed so outboard turning can safely be accomplished.

To outboard turn on the Model G0698:

1. DISCONNECT LATHE FROM POWER!
2. Remove the tailstock from the machine by removing the hex nut and clamp washer located underneath the tailstock assembly, then lifting it from the lathe bed.

Continued on next page →



- Loosen the headstock, then move it all the way to the tail end of the lathe bed, as shown in **Figure 45**.

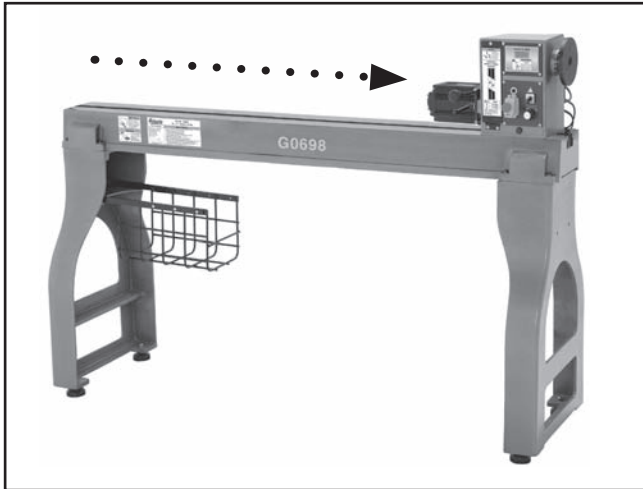


Figure 45. Lathe prepared for outboard turning.

⚠️ WARNING

Keep the lathe tool resting on a tool rest the **ENTIRE** time that it is in contact with workpiece or when preparing to make contact between lathe tool and workpiece. Otherwise, the spinning workpiece could force the lathe tool out of your hands or entangle your hands into the workpiece. Failure to heed this warning could result in serious personal injury.

- Use an accessory tool rest to support your lathe tool during the turning process.

Sanding/Finishing

After the turning operations are complete, the workpiece can be sanded and finished before removing it from the lathe, as shown in **Figure 46**.

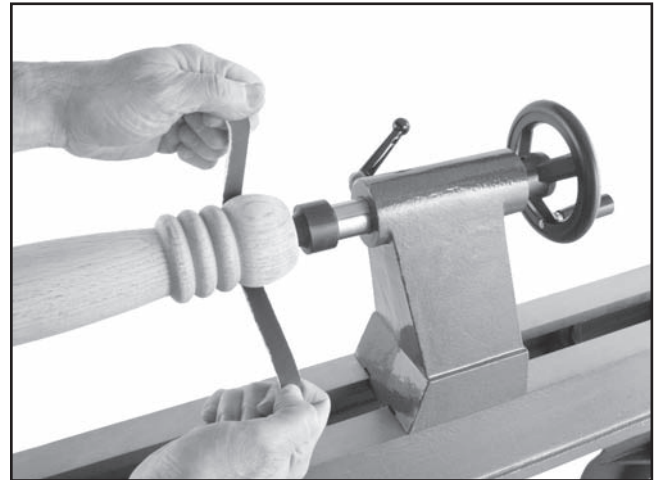


Figure 46. Typical sanding operation.

Note: Whenever sanding or finishing, move the tool rest holder out of the way to increase personal safety and gain adequate working room.

	<h2>⚠️ WARNING</h2> <p>Wrapping the sandpaper completely around the workpiece could pull your hands into the moving workpiece and may cause serious injury. Never wrap sandpaper or finishing materials completely around the workpiece.</p>
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SECTION 5: ACCESSORIES

G1194—3-Jaw Chuck

A "must have" for the serious wood turner. This 3-jaw chuck is a self-centering style chuck used mostly for round work. All three jaws tighten together at the same time. Jaws are reversible for expanded work holding capacity. *Threaded insert required for mounting!*



Figure 47. Model G1194 3-Jaw Chuck.

G1082—4-Jaw Chuck

Another "must have" for the serious wood turner. This 4-jaw chuck is an independent type chuck that is used for square and odd-shaped pieces. Each jaw tightens individually and can be turned around to hold larger dimension workpieces. *Threaded insert required for mounting!*

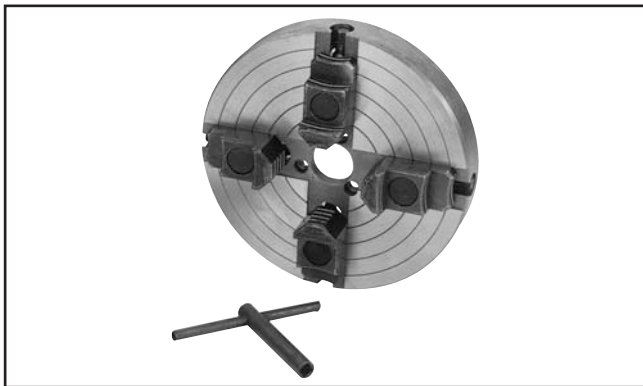


Figure 48. Model G1082 4-Jaw Chuck.

G3167—1¼" x 8 TPI RH Threaded Insert

This threaded insert is required to mount a 3- or 4-jaw chuck to your wood lathe.

T10117—Big Mouth Dust Hood with Stand

Capture dust from any machine operation with this Big Mouth Dust Hood. Simply attach a 4" dust collection hose and adjust the hood right where you need it. The free standing base eliminates complicated machine set-ups and the tilting 16³/₈" x 12⁷/₈" hood adjusts from 23" to 43" high. Every shop needs one of these!



Figure 49. T10117 Big Mouth Dust Hood.

H5954—Robert Sorby Stebcentre MT#2

Razor sharp teeth bite into the workpiece for secure operation and the spring loaded center point controls the amount of drive or slip. This patented feature helps avoid the problem of 'dig-in'. Production turners can also load and unload their work while the lathe is still running!



Figure 50. Robert Sorby Stebcentre.

Call 1-800-523-4777 To Order



H6542—Robert Sorby HSS 8-PC Turning Set

If quality is king, then start bowing. Made in England, these Robert Sorby lathe tools are especially for the perfectionist wood turner. Includes $\frac{3}{4}$ " roughing gouge, $\frac{3}{8}$ " & $\frac{1}{2}$ " spindle gouge, $\frac{3}{8}$ " bowl gouge, $\frac{3}{4}$ " standard skew, $\frac{3}{16}$ " diamond side cut scraper, 1" square scraper and $\frac{1}{2}$ " round scraper. Full size handles are 16"—19".



Figure 51. Model H6542 Robert Sorby 8-PC Set.

G9863—8-PC HSS Lathe Chisel Set

This chisel set features beautiful 8" ash handles with brass ferrules and $3\frac{1}{2}$ " long, high speed steel blades. Chisels include: $\frac{1}{2}$ " parting tool, $\frac{1}{2}$ " straight chisel, $\frac{1}{2}$ " double bevel skew, $\frac{1}{2}$ " roundnose, $\frac{3}{4}$ " gouge, $\frac{3}{8}$ " gouge, $\frac{1}{2}$ " diamond point and $\frac{3}{8}$ " veiner. Set comes in fitted wooden case, and is very competitively priced!



Figure 52. Model G9863 8-PC Chisel Set.

H6204—Precision Drill Chuck $\frac{1}{32}$ "— $\frac{5}{8}$ " x JT#3

G1676—Drill Chuck Arbor MT#2 x JT#3

The best way to bore holes with your lathe!

H0507—20" Swan Neck Hollowing Tool

H0508—24" Swan Neck Hollowing Tool

An excellent choice for blind turning or undercutting where reach is restricted. H0507 is designed for end grain use while H0508 (with a more substantial steel cross section) is designed for both end grain and side grain (bowl) use.



Figure 53. Swan Neck Hollowing Tools.

H1064—6-PC Deluxe HSS Lathe Chisel Set

This deluxe chisel set features beefy ash handles for unsurpassed control, brass ferrules and high speed steel blades. Includes: a 17" long $\frac{13}{16}$ " Parting Tool, $\frac{13}{16}$ " Round Nose and $\frac{3}{8}$ " Gouge; a 19" long 1" Skew, a $\frac{5}{8}$ " Gouge and a $22\frac{3}{4}$ " long $\frac{3}{8}$ " Gouge. Comes in a beautiful blow molded carrying case. An extremely popular set!



Figure 54. Model H1064 6-PC Chisel Set.

Call 1-800-523-4777 To Order



SECTION 6: MAINTENANCE



Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Daily Check:

- Loose faceplate or mounting bolts.
- Damaged center or tooling.
- Worn or damaged wires.
- Any other unsafe condition.
- Loose machine components.

Weekly Maintenance:

- Clean off dust buildup.
- Clean and lubricate lathe bed, spindle, and quill.

Monthly Check:

- Belt tension, damage, or wear.
- Clean out dust buildup from inside belt/pulley cavity.

Cleaning

Cleaning the Model G0698 is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it. Treat all unpainted cast iron and steel with a non-staining lubricant after cleaning. Remove and debris or oily substances from the inside of the spindle and quill.

Lathe Bed

Protect the unpainted cast iron lathe bed by wiping it clean after every use—this ensures moisture from wood dust does not remain on the bare metal surfaces.

Keep your lathe bed rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9.

Lubrication

All bearings for the Model G0698 are lubricated and sealed at the factory, and do not need additional lubrication.

Wipe a lightly oiled shop rag on the outside of the headstock spindle. **DO NOT** allow any oil to get on the inside mating surfaces of the spindle.

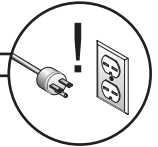
Use the tailstock handwheel to extend the quill out to the furthest position and apply a thin coat of white grease to the outside of the quill. **DO NOT** allow any oil or grease to get on the inside mating surfaces of the quill.



SECTION 7: SERVICE

Review the troubleshooting and procedures in this section to fix or adjust your machine if a problem develops. If you need replacement parts or you are unsure of your repair skills, then feel free to call our Technical Support at (570) 546-9663.

Troubleshooting

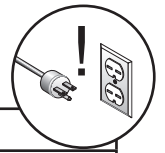


Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> Emergency stop push-button is engaged/faulty. Circuit board fuse is blown. Motor connection wired incorrectly. FWD/REV switch is at fault. Circuit board or control board is at fault. Speed rotary switch is at fault. Wiring is open/has high resistance. Motor is at fault. Frequency inverter is at fault. 	<ol style="list-style-type: none"> Open switch cover and press ON button/replace it. Replace fuse. Correct motor wiring connections. Replace faulty FWD/REV switch. Replace faulty board. Replace bad speed rotary switch. Check for broken wires or disconnected/corroded connections, and repair/replace as necessary. Test/repair/replace. Replace.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> Feed rate/cutting speed too fast for task. Belt slipping. Motor connection is wired incorrectly. Pulley slipping on shaft. Motor bearings are at fault. Machine is undersized for the task. Motor has overheated. Speed rotary switch at fault. Motor is at fault. 	<ol style="list-style-type: none"> Decrease feed rate/cutting speed. Replace bad belt and re-tension (see Page 39). Correct motor wiring connections. Replace loose pulley. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. Use sharp lathe bits and chisels; reduce the feed rate/depth of cut. Clean off motor, let cool, and reduce workload. Replace bad speed rotary switch. Test/repair/replace.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> Motor or component is loose. Belt worn or loose. Motor fan is rubbing on fan cover. Pulley is loose. Machine is incorrectly mounted or sits unevenly on floor. Motor mount loose/broken. Workpiece, center, or faceplate is at fault. Motor bearings are at fault. 	<ol style="list-style-type: none"> Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread locking fluid. Inspect/replace belts (see Page 39). Replace dented fan cover; replace loose/damaged fan. Replace shaft, pulley, setscrew, and key as required. Tighten/replace anchor studs in floor; relocate/shim machine; adjust feet. Tighten/replace. Center workpiece in center or faceplate; reduce RPM; replace defective center or faceplate. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.



Wood Lathe Operation



Symptom	Possible Cause	Corrective Action
Vibration noise while machine is running; noise changes when speed is changed.	1. Belt cover loose.	1. Tighten the screws that secure the belt cover; if necessary install a soft, vibration dampening material between the belt cover and the headstock casting.
Excessive vibration.	<ol style="list-style-type: none"> 1. Workpiece mounted incorrectly. 2. Headstock, tailstock, or tool rest not securely clamped to lathe bed. 3. Workpiece warped, out of round, or is flawed. 4. Spindle speed is set too fast for mounted workpiece. 5. Lathe is resting on an uneven surface. 6. Motor mount bolts are loose. 7. Belt is worn or damaged. 8. Spindle bearings are worn. 	<ol style="list-style-type: none"> 1. Re-mount workpiece, making sure that centers are embedded in true center of workpiece. 2. Check clamp levers and tighten if necessary. 3. Cut workpiece to correct, or use a different workpiece. 4. Reduce the spindle speed. 5. Shim stand or adjust feet on stand to remove any wobbles present in the stand. 6. Tighten motor mount bolts. 7. Replace belt (see Page 39). 8. Replace spindle bearings.
Chisels grab or dig into workpiece.	<ol style="list-style-type: none"> 1. Tool rest set too low. 2. Tool rest set too far from workpiece. 3. Wrong chisel/tool being used. 4. Chisel/tool dull. 	<ol style="list-style-type: none"> 1. Set tool rest higher. See Page 30 for how to properly set the tool rest height. 2. Move the tool rest closer to the workpiece. See Page 30 for the proper workpiece/tool rest clearance. 3. Use the correct chisel/tool; educate yourself by reading books, trade magazines, or seeking help from an experienced lathe operator. 4. Sharpen or replace the chisel/tool you are using.
Bad surface finish.	<ol style="list-style-type: none"> 1. Wrong spindle speed. 2. Dull chisel or wrong chisel being used for the operation. 	<ol style="list-style-type: none"> 1. Use trial-and-error to find a better spindle speed. 2. Sharpen chisel or try a different chisel.
Tailstock moves.	<ol style="list-style-type: none"> 1. Tailstock mounting bolt loose. 2. Bed surface is oily or greasy. 	<ol style="list-style-type: none"> 1. Tighten. 2. Clean bed surface to remove excess oil/grease.
Can't remove tapered tool from tailstock barrel.	<ol style="list-style-type: none"> 1. Tailstock barrel not retracted all the way back into the tailstock. 2. Debris was not removed from taper before inserting into barrel. 	<ol style="list-style-type: none"> 1. Turn the barrel handwheel until it forces taper out of barrel. 2. Always make sure that taper surfaces are clean.



Changing Belt

To change the belt:

1. DISCONNECT LATHE FROM POWER!
2. Open the front belt access panel (see **Figure 55**).

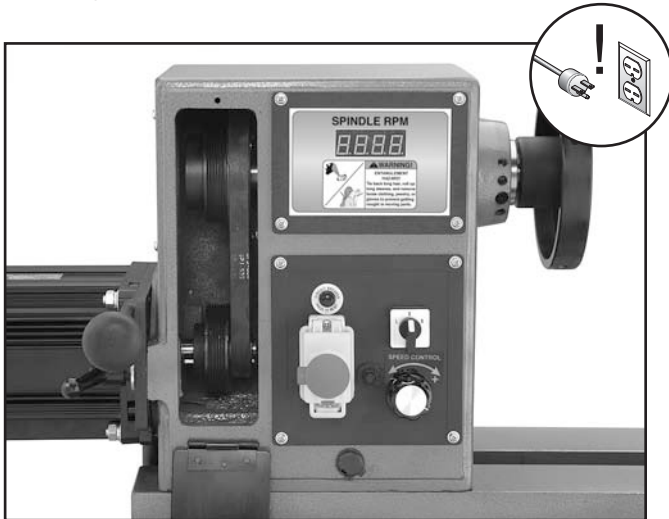


Figure 55. Belt access panel removed.

3. Loosen the belt tension lock handle (**Figure 56**).

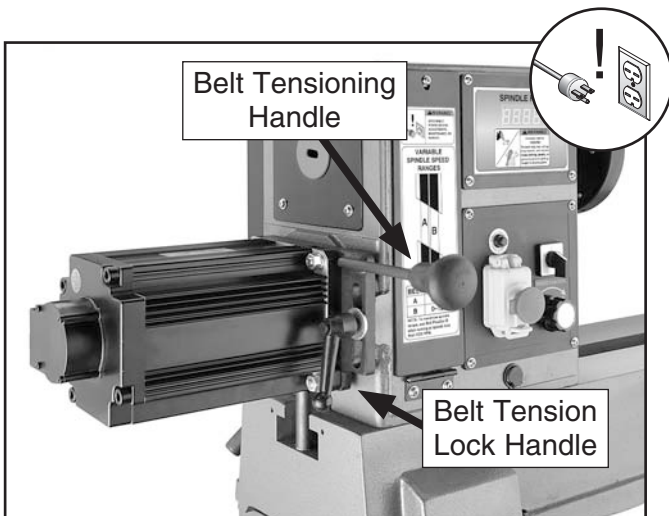


Figure 56. Belt tensioning handle and tension lock handle.

4. Use the motor tensioning handle to lift the motor assembly all the way up, then re-tighten the motor tension lock handle—this will hold the motor in place while you change the belt position.
5. Reach into the belt access cavity and roll the belt off the motor (lower) pulleys, then pull the belt off the spindle pulleys and out the side of the headstock.
6. Install the new belt by reversing **Step 5**.
7. Apply downward pressure on the belt tensioning handle to properly tension the drive belt, then re-tighten the belt tension lock handle.

Note: When properly tensioned, the belt should deflect about $\frac{1}{8}$ " when moderate pressure is applied to the belt mid-way between the upper and lower pulley, as illustrated in **Figure 32**.

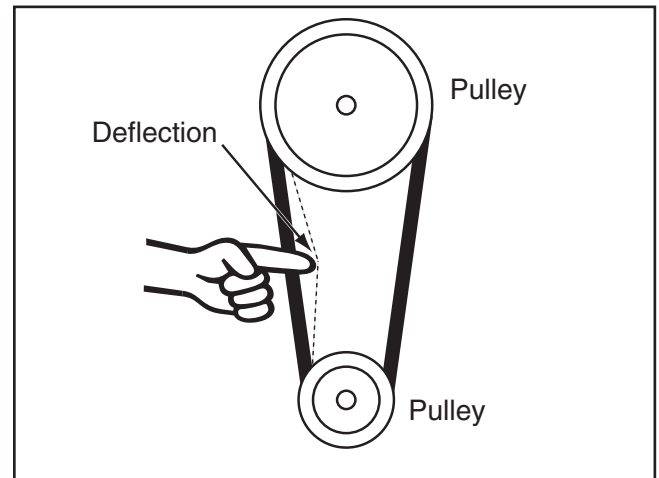


Figure 57. Testing for $\frac{1}{8}$ " belt deflection.

8. Close the front belt access panel.



SECTION 8: WIRING

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Study this section carefully. If there are differences between your machine and what is shown in this section, call Technical Support at (570) 546-9663 for assistance BEFORE making any changes to the wiring on your machine.















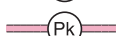
WARNING Wiring Safety Instructions

- SHOCK HAZARD.** Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!
- MODIFICATIONS.** Modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire. This includes the installation of unapproved aftermarket parts.
- WIRE CONNECTIONS.** All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.
- CIRCUIT REQUIREMENTS.** You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.
- WIRE/COMPONENT DAMAGE.** Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components.
- MOTOR WIRING.** The motor wiring shown in these diagrams is current at the time of printing but may not match your machine. If you find this to be the case, use the wiring diagram inside the motor junction box.
- CAPACITORS/INVERTERS.** Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.
- EXPERIENCING DIFFICULTIES.** If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (570) 546-9663.

NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at www.grizzly.com.

COLOR KEY

BLACK		BLUE		YELLOW		LIGHT BLUE	
WHITE		BROWN		YELLOW GREEN		BLUE WHITE	
GREEN		GRAY		PURPLE		TUR-QUOISE	
RED		ORANGE		PINK			



Wiring Diagram

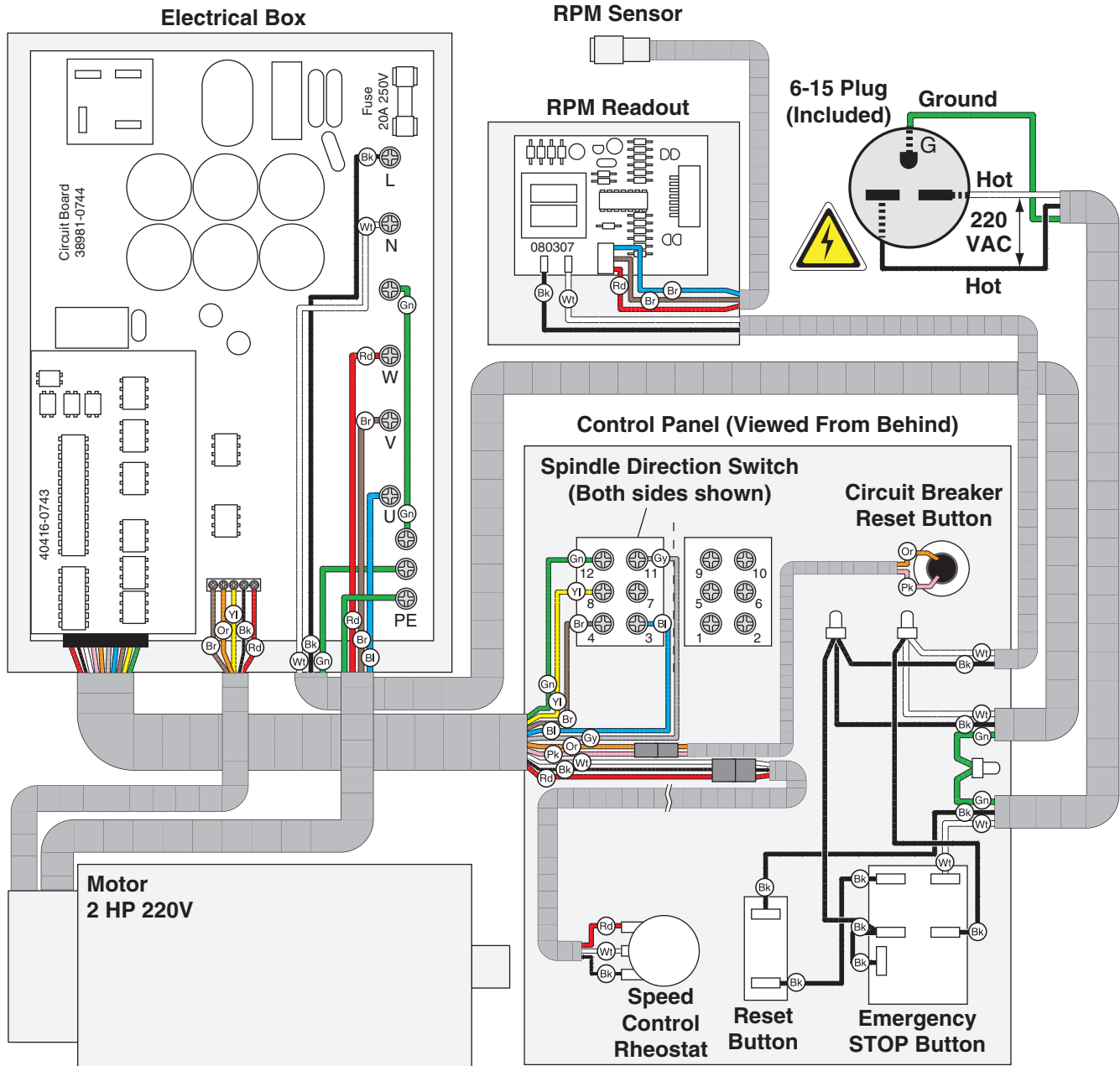


Figure 58. Control panel wiring.

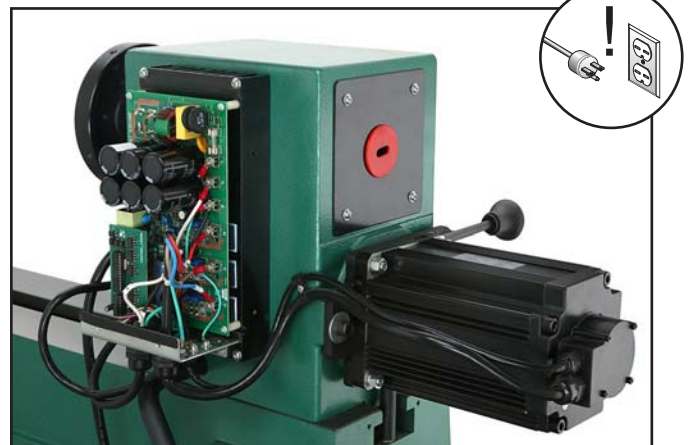


Figure 59. Electrical box wiring.

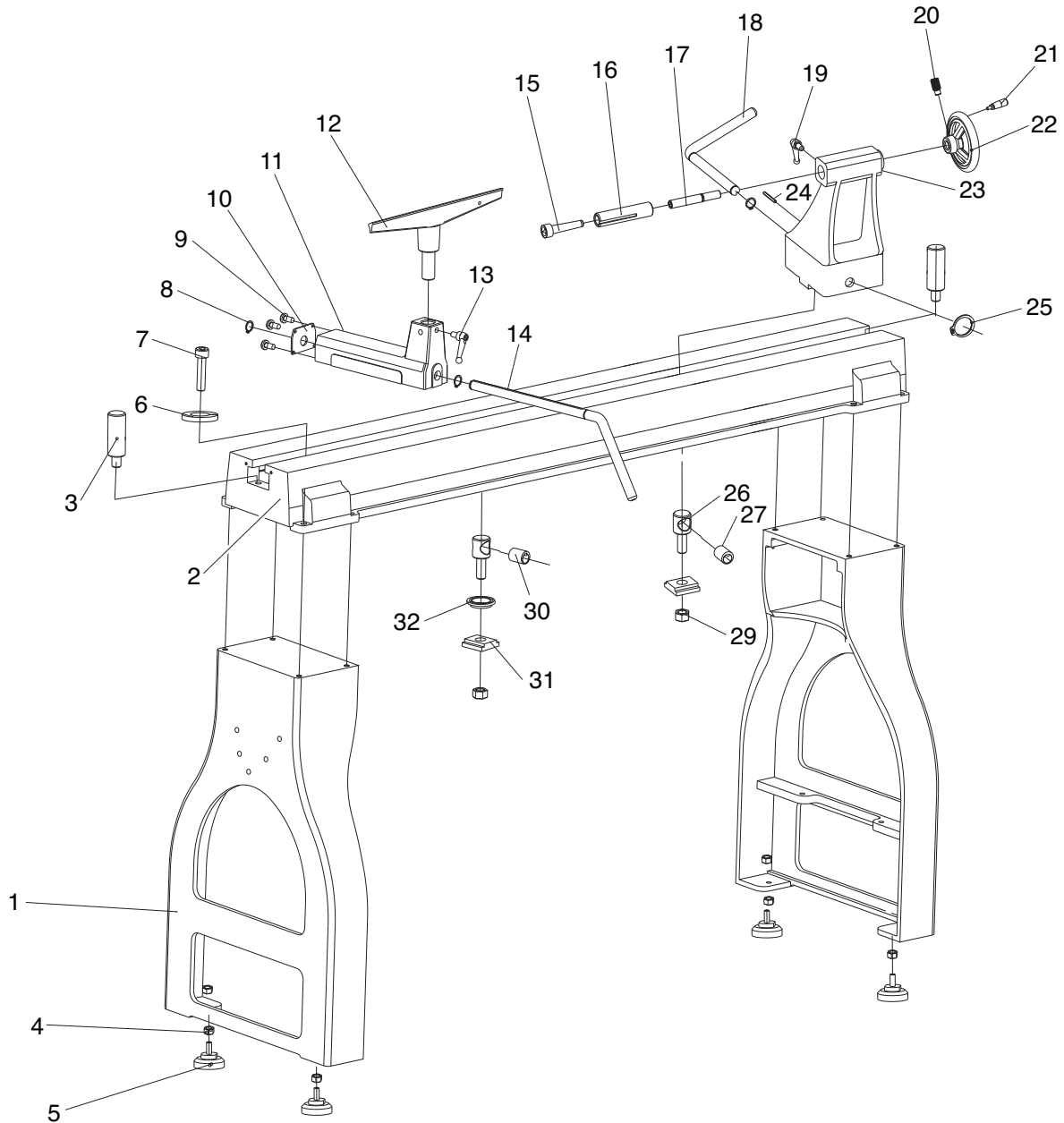


**READ ELECTRICAL SAFETY
ON PAGE 40!**



SECTION 9: PARTS

Stand & Bed Parts Breakdown



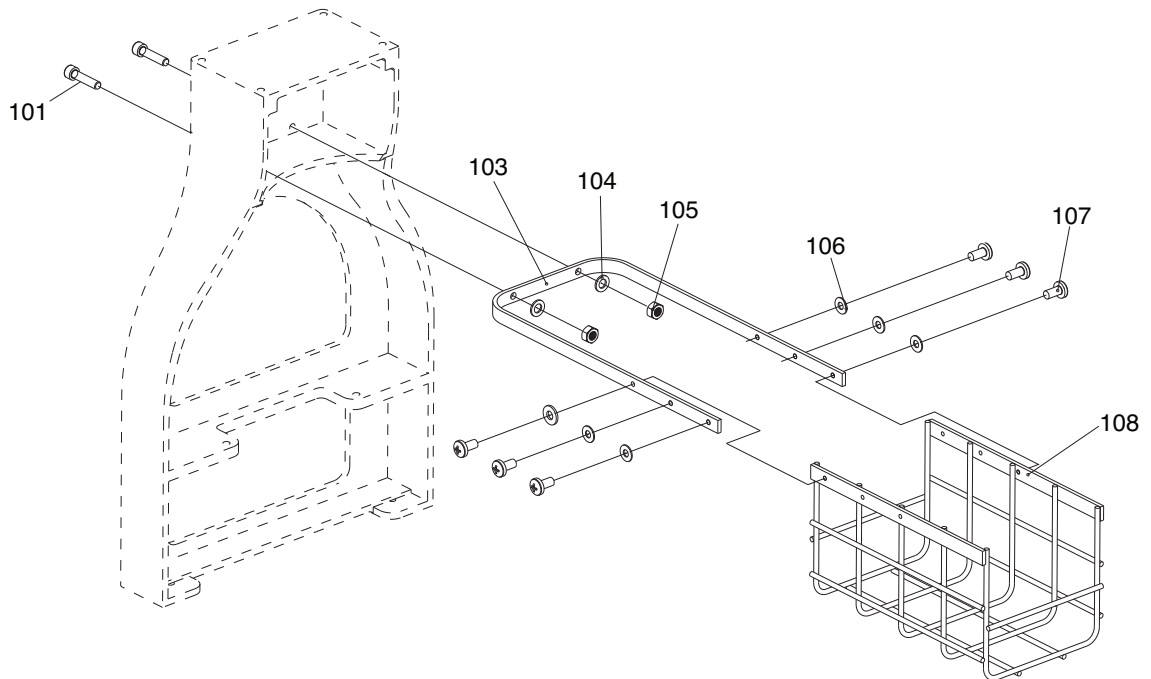
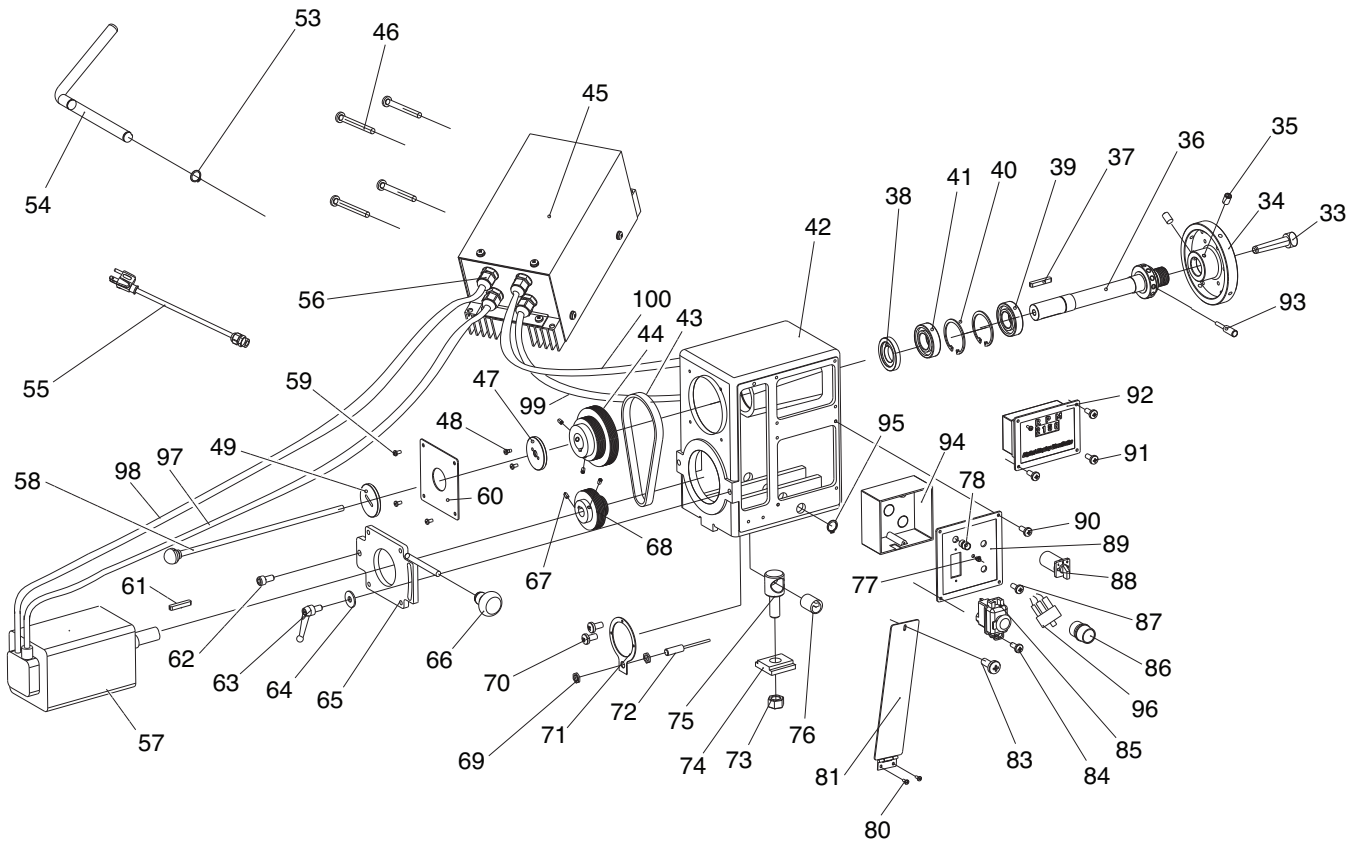
Stand & Bed Parts List

REF	PART #	DESCRIPTION
1	P0698001	STAND
2	P0698002	BED
3	P0698003	BED STOP
4	PN08M	HEX NUT M10-1.25
5	P0698005	FOOT
6	PW04M	FLAT WASHER 10MM
7	PCAP84M	CAP SCREW M10-1.5 X 35
8	PR08M	EXT RETAINING RING 19MM
9	PCAP50M	CAP SCREW M5-.8 X 10
10	P0698010	TOOL REST BASE PLATE
11	P0698011	TOOL REST BASE
12	P0698012	TOOL REST
13	P0698013	TOOL REST LOCK LEVER
14	P0698014	TOOL REST BASE LOCK LEVER
15	P0698015	LIVE CENTER
16	P0698016	QUILL

REF	PART #	DESCRIPTION
17	P0698017	LEAD SCREW
18	P0698018	TAILSTOCK LOCK LEVER
19	P0698019	QUILL LOCK LEVER
20	PSS14M	SET SCREW M8-1.25 X 12
21	P0698021	HANDWHEEL HANDLE
22	P0698022	HANDWHEEL
23	P0698023	TAILSTOCK CASTING
24	PRP30M	ROLL PIN 5 X 50
25	PR08M	EXT RETAINING RING 19MM
26	P0698026	TAILSTOCK CLAMP BOLT
27	P0698027	ECCENTRIC BUSHING 19 X 26 X 33W
29	PN29M	HEX NUT M18-2.5
30	P0698027	ECCENTRIC BUSHING 19 X 26 X 33W
31	P0698031	CLAMP PLATE
32	P0698032	SUPPORT BRACKET



Headstock Parts Breakdown



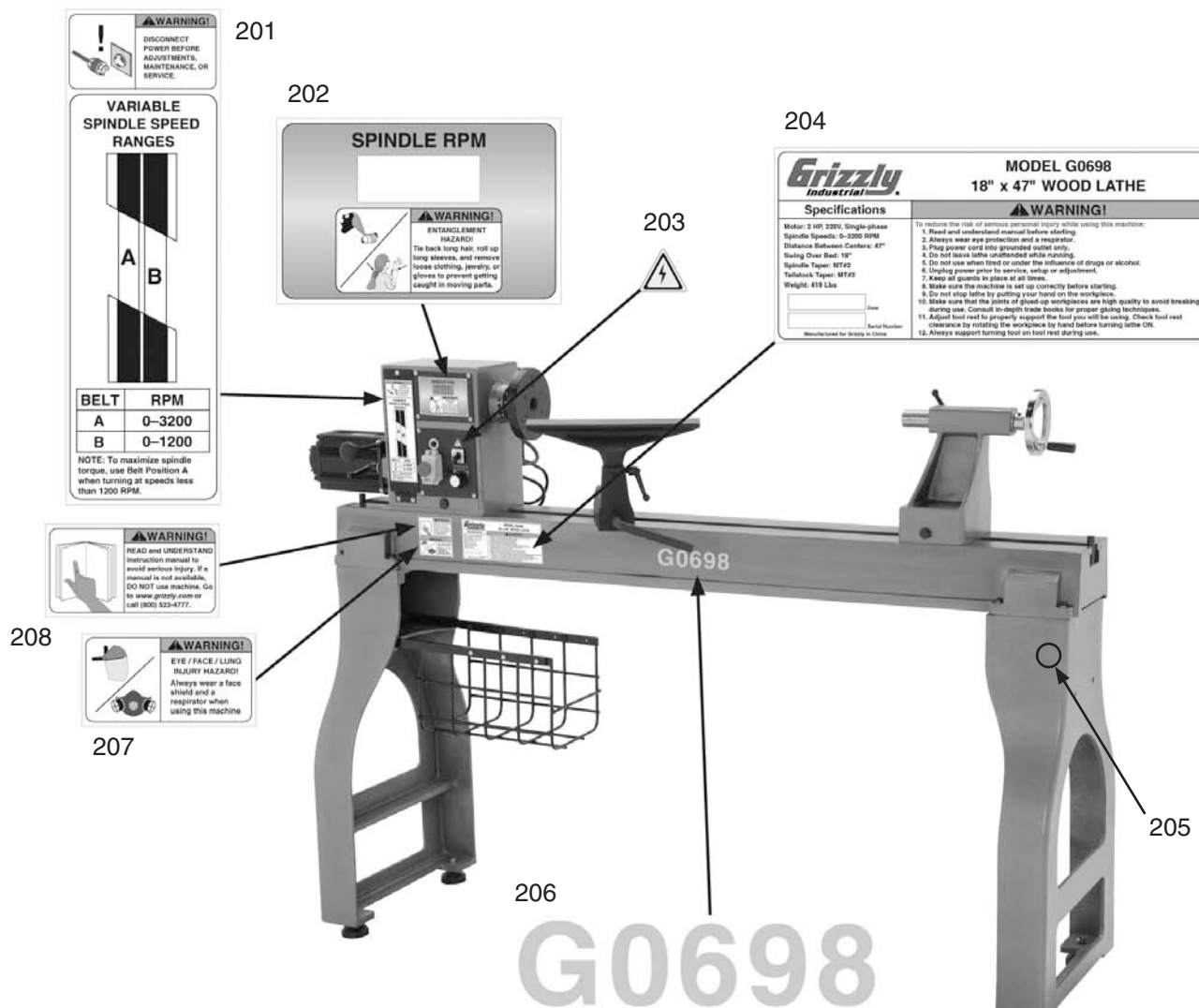
Headstock Parts List

REF	PART #	DESCRIPTION
33	P0698033	SPUR CENTER
34	P0698034	FACEPLATE
35	PSS04M	SET SCREW M6-1 X 12
36	P0698036	SPINDLE
37	PK153M	KEY 8 X 7 X 45
38	P0698038	SPACER
39	P6206ZZ	BALL BEARING 6206 ZZ
40	PR38M	INT RETAINING RING 62MM
41	P6206ZZ	BALL BEARING 6206 ZZ
42	P0698042	HEADSTOCK CASTING
43	P0698043	RIBBED FLAT BELT 530J6
44	P0698044	SPINDLE PULLEY
45	P0698045	INVERTER
46	PS54M	PHLP HD SCR M5-.8 X 45
47	P0698047	SPINDLE COVER
48	PSS53M	SET SCREW M5-.8 X 12
49	P0698049	SPINDLE ACCESS COVER
53	PR08M	EXT RETAINING RING 19MM
54	P0698054	HEADSTOCK LOCK LEVER
55	P0698055	POWER CORD 10AWG X 3C X 72"L
56	P0698056	STRAIN RELIEF
57	P0698057	MOTOR 2HP 220V 3PH
58	P0698058	KNOCKOUT ROD
59	PS08M	PHLP HD SCR M5-.8 X 12
60	P0698060	SPINDLE PULLEY COVER
61	PK44M	KEY 6 X 6 X 50
62	PCAP72M	CAP SCREW M10-1.5 X 30
63	P0698063	BELT TENSION LOCK LEVER
64	PW04M	FLAT WASHER 10MM
65	P0698065	MOTOR PLATE
66	P0698066	KNOB M10-1.5
67	PSS04M	SET SCREW M6-1 X 12
68	P0698068	MOTOR PULLEY
69	P0698069	THIN HEX NUT M12-1
70	PS07M	PHLP HD SCR M4-.7 X 8

REF	PART #	DESCRIPTION
71	P0698071	RPM SENSOR BRACKET
72	P0698072	RPM SENSOR
73	PN29M	HEX NUT M18-2.5
74	P0698074	HEADSTOCK CLAMP
75	P0698075	HEADSTOCK CLAMP BOLT
76	P0698027	ECCENTRIC BUSHING 19 X 26 X 33W
77	P0698077	OVERLOAD RESET BUTTON
78	P0698078	CIRCUIT BREAKER
80	PS08M	PHLP HD SCR M5-.8 X 12
81	P0698081	BELT DOOR
83	PS08M	PHLP HD SCR M5-.8 X 12
84	PS38M	PHLP HD SCR M4-.7 X 10
85	P0698085	ON/OFF SWITCH
86	P0698086	VARIABLE SPEED DIAL
87	PS38M	PHLP HD SCR M4-.7 X 10
88	P0698088	FWD/REW SWITCH ZH-A
89	P0698089	PANEL COVER
90	PS38M	PHLP HD SCR M4-.7 X 10
91	PS38M	PHLP HD SCR M4-.7 X 10
92	P0698092	DIGITAL READOUT
93	P0698093	SPINDLE LOCK TOOL
94	P0698094	SWITCH BOX
95	PR08M	EXT RETAINING RING 19MM
96	P0698096	VARIABLE SPEED CONTROL
97	P0698097	MOTOR CORD 10AWG X 4C X 24"L
98	P0698098	MOTOR RPM CORD 14AWG X 5C X 24"L
99	P0698099	DISPLAY CORD 10AWG X 10C X 18"L
100	P0698100	SWITCH CORD 3-WIRE 18"L
101	PCAP40M	CAP SCREW M8-1.25 X 35
103	P0698103	BASKET BRACKET
104	PLW04M	LOCK WASHER 8MM
105	PN03M	HEX NUT M8-1.25
106	PLW03M	LOCK WASHER 6MM
107	PS14M	PHLP HD SCR M6-1 X 12
108	P0698108	STORAGE BASKET



Label Placement



REF	PART #	DESCRIPTION
201	P0698201	BELT COVER LABEL
202	P0698202	READOUT LABEL
203	PLABEL-14B	ELECTRICITY WARNING
204	P0698204	MACHINE ID LABEL

REF	PART #	DESCRIPTION
205	PPAINT-1	GRIZZLY GREEN PAINT
206	P0698206	MODEL NUMBER LABEL
207	PLABEL-56C	EYE/FACE/LUNG HAZARD LABEL
208	PLABEL-12D	READ MANUAL LABEL

⚠ WARNING

Safety labels warn about machine hazards and ways to prevent injury. The owner of this machine **MUST** maintain the original location and readability of the labels on the machine. If any label is removed or becomes unreadable, **REPLACE** that label before using the machine again. Contact Grizzly at (800) 523-4777 or www.grizzly.com to order new labels.





WARRANTY CARD

Name _____
 Street _____
 City _____ State _____ Zip _____
 Phone # _____ Email _____ Invoice # _____
 Model # _____ Order # _____ Serial # _____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. **Of course, all information is strictly confidential.**

1. How did you learn about us?

Advertisement Friend Catalog
 Card Deck Website Other:

2. Which of the following magazines do you subscribe to?

<input type="checkbox"/> Cabinetmaker & FDM	<input type="checkbox"/> Popular Science	<input type="checkbox"/> Wooden Boat
<input type="checkbox"/> Family Handyman	<input type="checkbox"/> Popular Woodworking	<input type="checkbox"/> Woodshop News
<input type="checkbox"/> Hand Loader	<input type="checkbox"/> Precision Shooter	<input type="checkbox"/> Woodsmith
<input type="checkbox"/> Handy	<input type="checkbox"/> Projects in Metal	<input type="checkbox"/> Woodwork
<input type="checkbox"/> Home Shop Machinist	<input type="checkbox"/> RC Modeler	<input type="checkbox"/> Woodworker West
<input type="checkbox"/> Journal of Light Cont.	<input type="checkbox"/> Rifle	<input type="checkbox"/> Woodworker's Journal
<input type="checkbox"/> Live Steam	<input type="checkbox"/> Shop Notes	<input type="checkbox"/> Other:
<input type="checkbox"/> Model Airplane News	<input type="checkbox"/> Shotgun News	
<input type="checkbox"/> Old House Journal	<input type="checkbox"/> Today's Homeowner	
<input type="checkbox"/> Popular Mechanics	<input type="checkbox"/> Wood	

3. What is your annual household income?

\$20,000-\$29,000 \$30,000-\$39,000 \$40,000-\$49,000
 \$50,000-\$59,000 \$60,000-\$69,000 \$70,000+

4. What is your age group?

20-29 30-39 40-49
 50-59 60-69 70+

5. How long have you been a woodworker/metalworker?

0-2 Years 2-8 Years 8-20 Years 20+ Years

6. How many of your machines or tools are Grizzly?

0-2 3-5 6-9 10+

7. Do you think your machine represents a good value? Yes No

8. Would you recommend Grizzly Industrial to a friend? Yes No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?

Note: We never use names more than 3 times. Yes No

10. Comments: _____

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE



Place Stamp Here



GRIZZLY INDUSTRIAL, INC.
P.O. BOX 2069
BELLINGHAM, WA 98227-2069



FOLD ALONG DOTTED LINE

Send a Grizzly Catalog to a friend:

Name _____
Street _____
City _____ State _____ Zip _____

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

WARRANTY AND RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.



grizzly.com[®]

TOOL WEBSITE

Buy Direct and Save with Grizzly[®] – Trusted, Proven and a Great Value!
~Since 1983~

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Current Specials!*

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